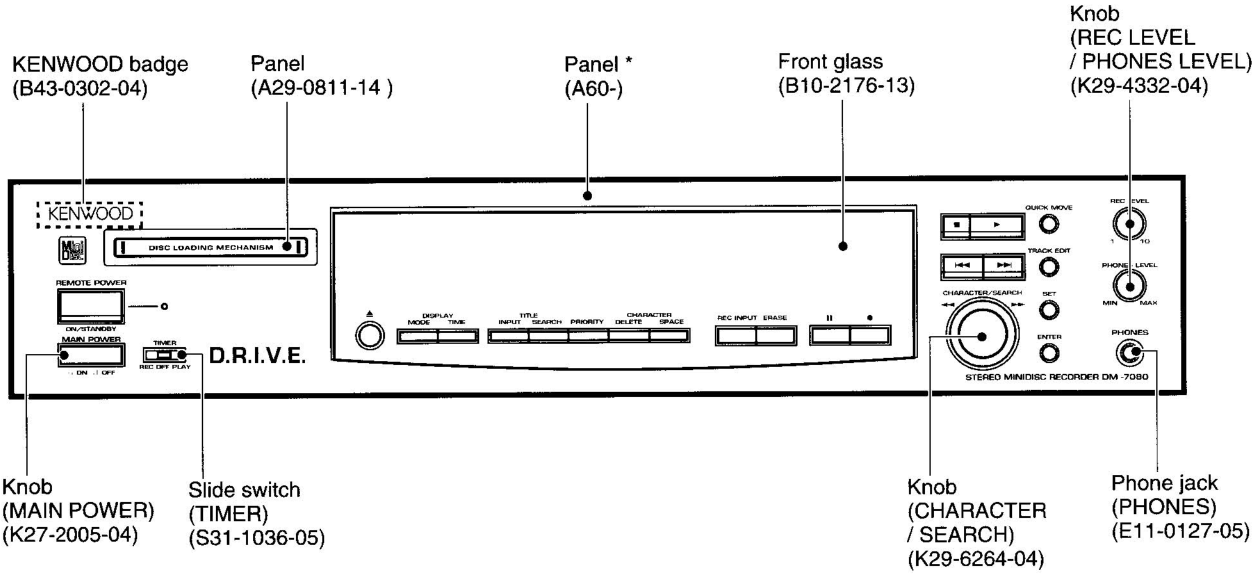
STEREO MINIDISC RECORDER

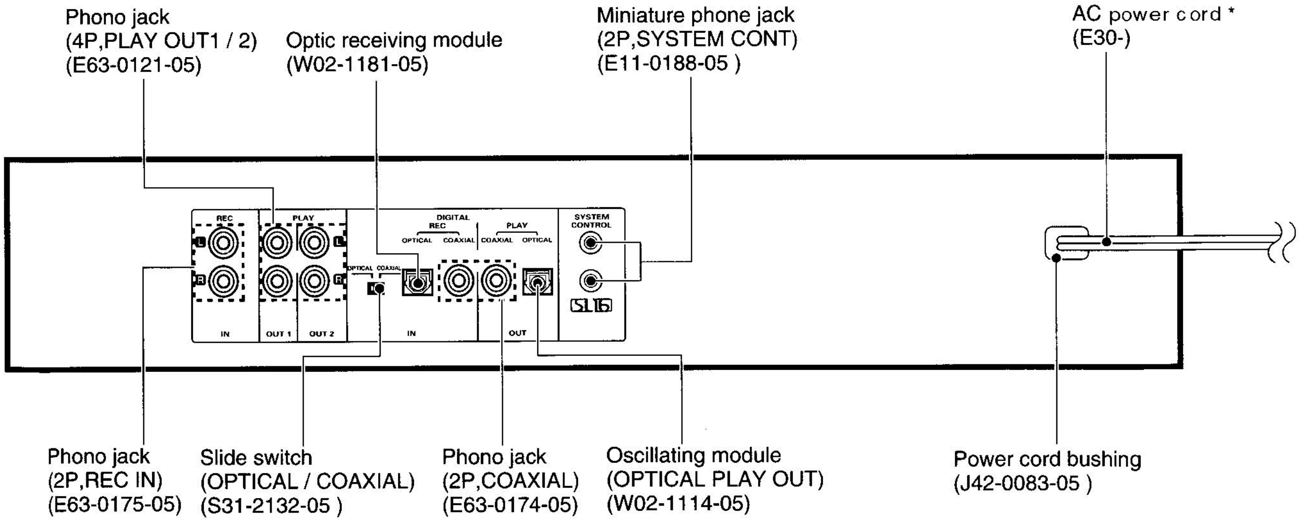
DM-7080

SERVICE MANUAL

KENWOOD

© 1996-5/B51-5195-00 (K/K) 2416


KENWOOD badge
(B43-0302-04)
Panel
(A29-0811-14)
Panel *
(A60-)
Front glass
(B10-2176-13)
Knob
(REC LEVEL
/ PHONES LEVEL)
(K29-4332-04)
KENWOOD
DISC LOADING MECHANISM
REMOTE POWER
ON/STANDBY
MAIN POWER
ON OFF
TIMER
REC OFF PLAY
D.R.I.V.E.
DISPLAY
MODE TIME
TITLE
INPUT SEARCH PRIORITY
CHARACTER
DELETE SPACE
REC INPUT ERASE
QUICK MOVE
TRACK EDIT
SET
ENTER
CHARACTER/SEARCH
REC LEVEL
PHONES LEVEL
MIN MAX
PHONES
STEREO MINIDISC RECORDER DM-7080
Knob
(MAIN POWER)
(K27-2005-04)
Slide switch
(TIMER)
(S31-1036-05)
Knob
(CHARACTER
/ SEARCH)
(K29-6264-04)
Phone jack
(PHONES)
(E11-0127-05)


Phono jack
(4P,PLAY OUT1 / 2)
(E63-0121-05)
Optic receiving module
(W02-1181-05)
Miniature phone jack
(2P,SYSTEM CONT)
(E11-0188-05)
AC power cord *
(E30-)
REC
PLAY
DIGITAL
REC
OPTICAL COAXIAL
PLAY
COAXIAL OPTICAL
SYSTEM CONTROL
IN
OUT 1
OUT 2
IN
OUT
Phono jack
(2P,REC IN)
(E63-0175-05)
Slide switch
(OPTICAL / COAXIAL)
(S31-2132-05)
Phono jack
(2P,COAXIAL)
(E63-0174-05)
Oscillating module
(OPTICAL PLAY OUT)
(W02-1114-05)
Power cord bushing
(J42-0083-05)

*** Refer to parts list on page 44.**

In compliance with Federal Regulations, following are reproductions of labels on, or inside the product relating to laser product safety.

KENWOOD-Corp. certifies this equipment conforms to DHHS Regulations No. 21 CFR 1040. 10, Chapter 1, Subchapter J.

DANGER : Laser radiation when open and interlock defeated. AVOID DIRECT EXPOSURE TO BEAM.

DM-7080

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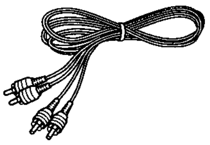
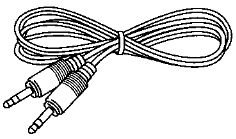
Accessories

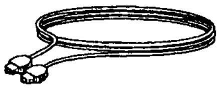
Audio cord ....(2)
(E30-0505-05)



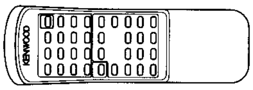
System control cord ....(1)
(E30-2733-05)



Optical fiber cable ....(1)
(B19-1529-05)

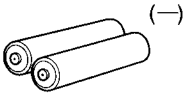


Remote control unit ....(1)
(A70-1031-05 : RC-MDF70)



Battery cover (A09-0188-08)

Batteries ....(2)
(W09-0022-05)



Cautions

Beware of condensation
When water vapor comes into contact with the surface of cold material, water drops are produced.
If condensation occurs, correct operation may not be possible, or the unit may not function correctly.
This is not a malfunction, however, and the unit should be dried. (To do this, turn the POWER switch ON and leave the unit for several hours.)

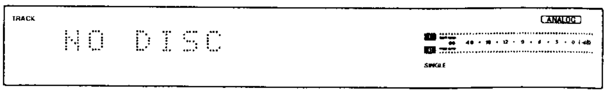
Be especially careful in the following conditions:

- When the unit is brought from a cold place to a warm place, and there is a large temperature difference.
- When a heater starts operating.
- When the unit is brought from an air-conditioned place to a place of high temperature with high humidity.
- When there is a large difference between the internal temperature of the unit and the ambient temperature, or in conditions where condensation occurs easily.

Note related to transportation and movement

Before transporting or moving this unit, carry out the following operations.

1. With no disc loaded in the unit, press the MAIN POWER key to on(STANDBY) then press the REMOTE POWER key to ON.
- Check that no disc is present in the unit.
2. Wait a few seconds and verify that the display shown appears.
3. Press the REMOTE POWER key to off(STANDBY), then Press the MAIN POWER key to OFF.



DISASSEMBLY FOR REPAIR

1. How to Remove MD Mechanism Assy

1. Remove 6 screws(❶).
2. Remove knobs(❷) and sub panel.
3. Remove wire harness and flexible cable (CN 31,32 and CN71)(❸).
4. Remove 4 screws(❹) and mechanism assy.

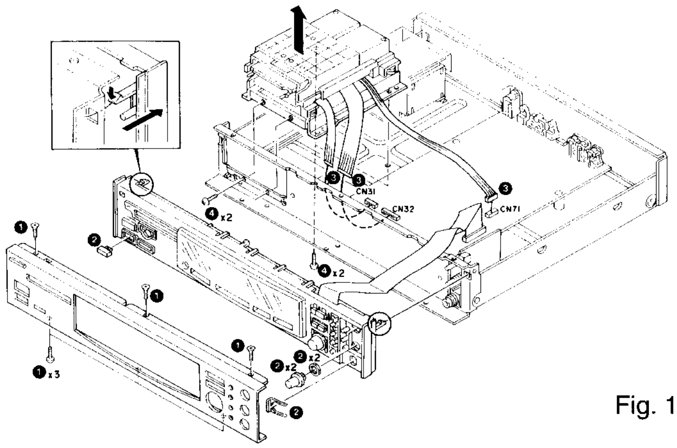


Fig. 1

2. How to Remove Mechanism PCB.

1. Unsolder 7 points on pcb(spindle motor, feed motot, protect and reflect switch(❸)
2. Unsolder hook of heat sink and remove it.
3. Solder short-lands on CN101 flexible cable and remove CN101 and CN104(❹)
4. Remove mechanism pcb.

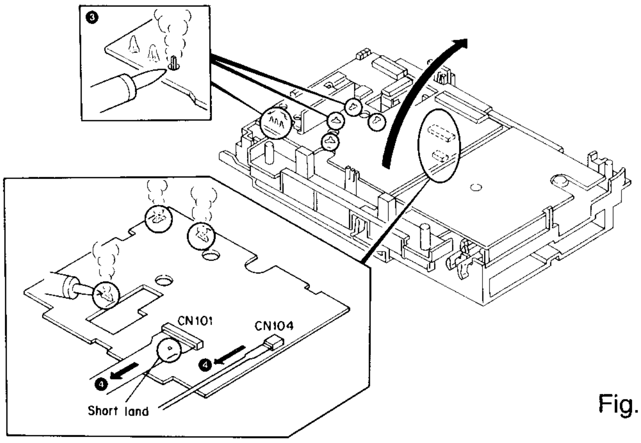


Fig. 2

3. How to Replace pickup and Head.

1. Remove mechanism pcb.
2. Remove gear (❺) with releasing stopper with radio pliers.
3. Remove gear (❻).
4. Pull out shaft (❼) and remove pickup (❽).
5. Remove screw (❾) and disassemble pickup assy.
6. Remove screw (❿) and leaf plate.
7. Replace pickup.
8. Insert flexible cables and unsoler short-lands.

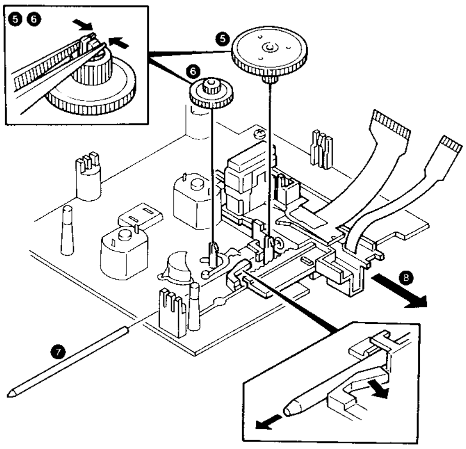


Fig. 3

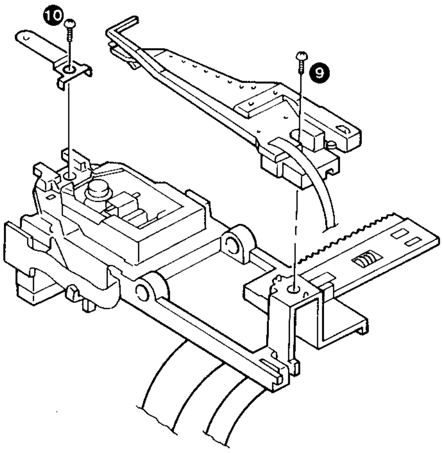
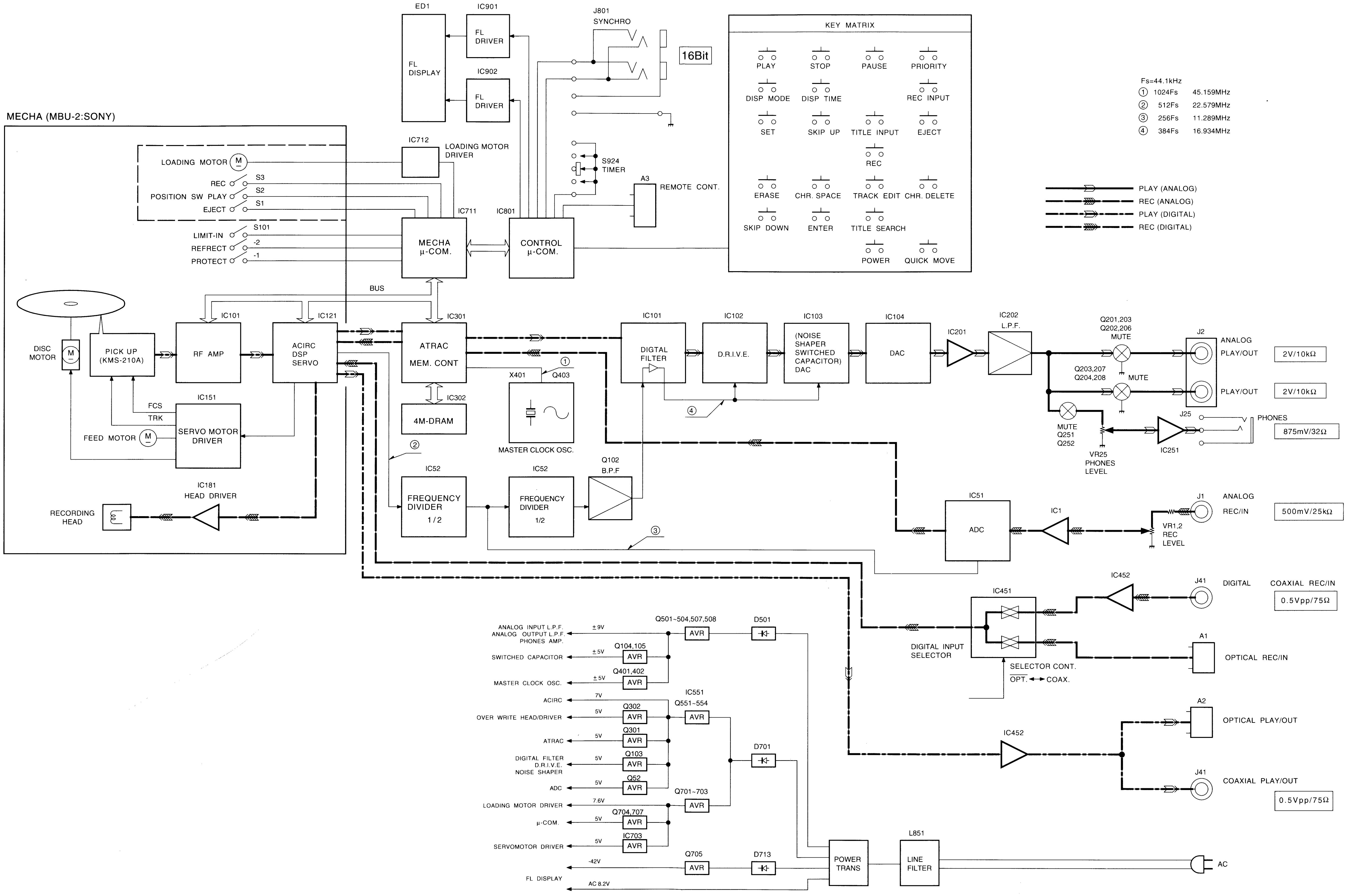


Fig. 4

BLOCK DIAGRAM


ED1
FL DISPLAY
IC901
FL DRIVER
IC902
FL DRIVER
J801
SYNCHRO
16Bit
KEY MATRIX
PLAY
STOP
PAUSE
PRIORITY
DISP MODE
DISP TIME
REC INPUT
SET
SKIP UP
TITLE INPUT
EJECT
REC
ERASE
CHR. SPACE
TRACK EDIT
CHR. DELETE
SKIP DOWN
ENTER
TITLE SEARCH
POWER
QUICK MOVE
Fs=44.1kHz
① 1024Fs 45.159MHz
② 512Fs 22.579MHz
③ 256Fs 11.289MHz
④ 384Fs 16.934MHz
PLAY (ANALOG)
REC (ANALOG)
PLAY (DIGITAL)
REC (DIGITAL)
MECHA (MBU-2:SONY)
IC712
LOADING MOTOR DRIVER
LOADING MOTOR
REC
POSITION SW PLAY
EJECT
S3
S2
S1
S924
TIMER
A3
REMOTE CONT.
IC711
IC801
LIMIT-IN
REFRECT
PROTECT
S101
-2
-1
MECHA µ-COM.
CONTROL µ-COM.
BUS
IC101
IC121
IC301
DISC MOTOR
PICK UP (KMS-210A)
RF AMP
ACIRC DSP SERVO
ATRAC MEM. CONT
IC302
4M-DRAM
X401
Q403
MASTER CLOCK OSC.
IC151
FCS
TRK
FEED MOTOR
SERVO MOTOR DRIVER
IC181
HEAD DRIVER
RECORDING HEAD
IC52
FREQUENCY DIVIDER 1/2
IC52
FREQUENCY DIVIDER 1/2
Q102
B.P.F
IC101
DIGTAL FILTER
IC102
D.R.I.V.E.
IC103
(NOISE SHAPER SWITCHED CAPACITOR) DAC
IC104
DAC
IC201
IC202
L.P.F.
Q201,203
Q202,206
MUTE
Q203,207
Q204,208
MUTE
J2
ANALOG
PLAY/OUT
2V/10kΩ
PLAY/OUT
2V/10kΩ
J25
PHONES
875mV/32Ω
MUTE
Q251
Q252
VR25
PHONES LEVEL
IC251
IC51
ADC
IC1
J1
ANALOG
REC/IN
500mV/25kΩ
VR1,2
REC LEVEL
IC452
J41
DIGITAL
COAXIAL REC/IN
0.5Vpp/75Ω
IC451
A1
OPTICAL REC/IN
DIGITAL INPUT SELECTOR
SELECTOR CONT.
OPT. ←→ COAX.
A2
OPTICAL PLAY/OUT
IC452
J41
COAXIAL PLAY/OUT
0.5Vpp/75Ω
ANALOG INPUT L.P.F.
ANALOG OUTPUT L.P.F.
PHONES AMP.
±9V
Q501~504,507,508
AVR
D501
SWITCHED CAPACITOR
±5V
Q104,105
AVR
MASTER CLOCK OSC.
±5V
Q401,402
AVR
ACIRC
7V
IC551
Q551~554
AVR
OVER WRITE HEAD/DRIVER
5V
Q302
AVR
ATRAC
5V
Q301
AVR
DIGITAL FILTER
D.R.I.V.E.
NOISE SHAPER
5V
Q103
AVR
D701
ADC
5V
Q52
AVR
LOADING MOTOR DRIVER
7.6V
Q701~703
AVR
µ-COM.
5V
Q704,707
AVR
SERVOMOTOR DRIVER
5V
IC703
AVR
-42V
Q705
AVR
D713
FL DISPLAY
AC 8.2V
POWER TRANS
L851
LINE FILTER
AC

DM7080

1. Test mode

1-1. Setting the test mode

While pressing the TITLE INPUT key, plug the AC power cord to the power outlet.

1-2. Canceling the test mode

Unplug the AC power cord.

1-3. Basic operation in test mode

All operations are performed using the Rotary encoder, ENTER key, and ERASE key. The functions of each key are shown in the table below.

Function	Description
Rotary encoder	Changes the parameter and mode.
ENTER key	Proceeds for definition.
ERASE key	Returns for interrupt.

1-4. Selection of test mode

Eight test modes are selected by turning the Rotary encoder.

Display	Description	Section
TEMP ADJUST	Temperature compensation offset adjustment	2-5
LDPWR ADJUST	Laser power adjustment	2-6
EFBAL ADJUST	Traverse adjustment	2-7
FBIAS ADJUST	Focus bias adjustment	2-8
FBIAS CHECK	Focus bias confirmation	2-10
CPLAY MODE	Continuous playback mode	1-4-1
CREC MODE	Continuous recording mode	1-4-2
EEP MODE	Nonvolatile memory mode *	1-4-3

For more information on each adjustment mode, refer to each section of 2, "Electrical adjustment".

If other adjustment mode has been entered incorrectly, press the ERASE key to exit the mode.

*The EEP mode is not used for service. If this EEP mode has been entered incorrectly, press the ERASE key immediately to exit the mode.

1-4-1. Operation in continuous playback mode

1. Entering the continuous playback mode
(1) Insert a recordable disc or compact disc (CD) into the unit.
(2) Turn the Rotary encoder to display "CPLAY MODE".
(3) Press the ENTER key. The display then changes from "CPLAY MODE" to "CPLAY IN".
(4) After the access operation is completed, the display changes from "CPLAY IN" to "CPLAY(####)".

2. Change the playback point.
(1) Press the ENTER key during continuous playback. The display then changes to "CPLAY MID" and "CPLAY OUT". Press the ENTER key while "CPLAY MID" and "CPLAY OUT" are displayed. Moreover, the playback point can be shifted.
(2) After the access operation is completed, the display changes from "CPLAY MID" and "CPLAY OUT" to "CPLAY(####)".

3. Terminating the continuous playback mode
(1) Press the ERASE key. The display then changes to "CPLAY MODE".
(2) Press the EJECT key to take out the disc.

Note : The playback start addresses of IN, MID, and OUT are described below.

IN	40H cluster
MID	300H cluster
OUT	700H cluster

1-4-2. Operation in continuous recording mode

1. Entering the continuous recording mode
(1) Insert a recordable disc into the unit.
(2) Turn the Rotary encoder to display "CREC MODE".
(3) Press the ENTER key. The display then changes from "CREC MODE" to "CREC IN".
(4) After the access operation is completed, the display changes from "CREC IN" to "CREC(####)". The REC display then lights.

2. Change the recording point.
(1) Press the ENTER key during continuous recording. The display then changes to "CREC MID" and "CPLAY OUT" and the REC display goes off. Press the ENTER key while "CREC MID" and "CPLAY OUT" are displayed. Moreover, the recording point can be shifted.
(2) After the access operation is completed, the display changes from "CREC MID" and "CPLAY OUT" to "CREC (####)" and the REC display lights.

3. Terminating the continuous recording mode
(1) Press the ERASE key. The display then changes to "CREC MODE" and the REC display goes off.
(2) Press the EJECT key to take out the disc.

Notes :

1. The recording start addresses of IN, MID, and OUT are described below.

IN	40H cluster
MID	300H cluster
OUT	700H cluster

2. The ERASE key can be pressed at any time to stop the recording.
3. An erasure prevention control is not detected in the test mode. Be careful not to enter the continuous recording mode using a disc containing the data that should not be erased.
4. Do not record continuously for more than five minutes.
5. Take care that no vibration is applied during continuous recording.

Note : The "#" display on the screen indicates an arbitrary figure.

1-4-3. Nonvolatile memory mode

The nonvolatile memory mode is used to read or write the contents of nonvolatile memory. This mode is not used for service. If this mode has been entered incorrectly, press the ERASE key immediately to exit this mode.

1-5. Other key functions

Function	Description
▷/❚❚	Plays back continuously when this key is pressed during stop. Turns on and off the tracking servo when it is pressed during continuous playback.
■	Stops the continuous playback and recording.
►►I	The thread moves to the outer circumference while this key is pressed.
I◄◄	The thread moves to the inner circumference while this key is pressed.
●	Turns on and off the recording when this key is pressed during continuous playback.
TITLE SEARCH	Selects the mode for the pit and groove every time this key is pressed.
TITLE INPUT	Selects the spindle servo mode. (CLV-S and CLV-A)
DISPLAY MODE	Selects the contents of the display every time this key is pressed.

Note : An erasure prevention control is not detected in the test mode. Notice that recording is performed irrespective of the erasure prevention control position when the REC key is pressed.

1-6. Display in test mode

The display is selected in the order of MODE display, error rate display, and address display every time the DISPLAY MODE key is pressed.

1. MODE display

"TEMP ADJUST" and "CPLAY MODE" are displayed as the MODE display.

2. Address display

The address display appears as described below.

h = #### s = #### (Recordable disc and pre-mastered disc)
h = #### s = #### (Recordable groove)
h = Header address, s = SUBQ address, a = ADIP address

* When no address can be read, "–" display appears.

3. Error rate display

The error rate display appears as described below.

C1 = #### AD = ####
C1 = C1 error, AD = ADER

1-7. Other displays

Display	Description		
	Lights	Goes off	Blinks
►	Continuous playback	Stop	
❚❚	Tracking servo OFF	Tracking servo ON	
REC	Recording mode ON	Recording mode OFF	
RANDOM	CVL LOCK	CLV UNLOCK	
TRACK	Pit	Groove	
T. NO.	High reflection	Low reflection	
TITLE	CLV-S	CLV-A	
UNRECORDABLE	ABCD-adjusted		
DEMO	(Focus automatic gain succeed.) (Focus tracking automatic gain succeed.)		(Focus automatic gain succeed.) (Tracking automatic gain fails.)

Note : The "#" display on the screen indicates an arbitrary figure.

1-8. Precaution on use of test mode

1. The loading-related operation is performed independently of the operation in the test mode. Therefore, eject or insert the disc after confirming that the operation of a disc stopped. The disc rotation will not stop even if the EJECT key is pressed while a disc is rotating during continuous playback and recording. The disc is ejected while rotating. Be sure to press the ERASE key, then EJECT key.

2. An erasure prevention control is not detected in the test mode. Therefore, when the recording laser power mode such as continuous recording mode and traverse adjustment mode is entered, the contents of the existing recording are erased irrespective of the control position. Be careful not to enter the continuous recording mode and traverse adjustment mode when using a disc, containing the data that should not be erased, in the test mode.

2. Electrical adjustment

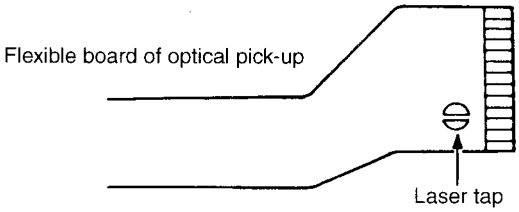
2-1. Precaution during confirmation of Laser Diode emission

During adjustment, do not view the emission of a laser diode from just above for confirmation. This may damage your eyes.

2-2. Precaution on handling of Optical pick-up (KMS-210A)

The laser diode in an optical pick-up is easy to be subject to electrostatic destruction. Therefore, solder-bridge the laser tap on the flexible board when handling the optical pick-up.

When removing the flexible board from the connector, make a solder bridge in advance, then remove the board. Be careful not to remove the solder bridge before inserting the connector. Moreover, take careful measures against electrostatic destruction. The flexible board is cut easily. Handle the flexible board with care.



2-3. Precaution during adjustment

1) Perform the adjustment and confirmation marked with "O" in the order shown in the table when the parts below are replaced.

	Optical pick-up	BD board		
		IC171	D101	IC101,IC121,IC191
1. Temperature compensation offset adjustment	X	O	O	O
2. Laser power adjustment	O	X	X	O
3. Traverse adjustment	O	O	X	O
4. Focus bias adjustment	O	O	X	O
5. Error rate confirmation	O	O	X	O

2) In the test mode, perform the adjustment. After adjustment is completed, cancel the test mode.
3) Perform the adjustment in the order described.
4) Use the following tools and measurement equipment.
   - CD test disc TDYS-1
   - Laser power meter
   - Oscilloscope (with bandwidth of more than 40 MΩ) (Calibrate the probe before measurement.)
   - Digital voltmeter
   - Thermometer
5) Take care that VC and GND (ground) are not connected on the oscilloscope when two or more signals are monitored on the oscilloscope. (VC and GND are short-circuited in this case.)
6) Do not move VR105 on the BD board. If VR105 is replaced, set new VR105 to the mechanical center position of a semi-fixed resistor.

2-4. Creating the recordable continuous recording disc

This disc is used for focus bias adjustment and error rate confirmation. How to create the recordable continuous recording disc is described below.

1. Insert a commercial recordable disc (blank disc).
2. Turn the Rotary encoder to display "CREC MODE."
3. Press the ENTER key to display "CREC IN".
4. Press the ENTER key again to display "CREC-MID". "CREC(0300)" is displayed momentarily and the recording is initiated.
5. Terminate the recording within five minutes.
6. Press the ERASE key to stop the recording.
7. Press the EJECT key to take out the recordable disc.

As a result, a continuously recorded disc can be created for focus bias adjustment and error rate confirmation.

Note : Take care that no vibration is applied during continuous recording.

2-5. Temperature compensation offset adjustment

The temperature data at that time is saved in nonvolatile memory as reference data at 25°C.

Notes :

1. Usually, do not perform this adjustment.
2. The ambient temperature when performing this adjustment is 22°C to 28°C. Perform this adjustment immediately after the power is turned on when the internal temperature of the unit is the same as the ambient temperature.
3. After the replacement of D101, perform this adjustment when the temperature of parts reaches the ambient temperature.

Note :

1. The "#" display on the screen indicates an arbitrary figure.
2. "VR###" printed on Schematic diagram and Parts list, through "RV###" printed on PCB.

CIRCUIT DESCRIPTION

Adjustment :

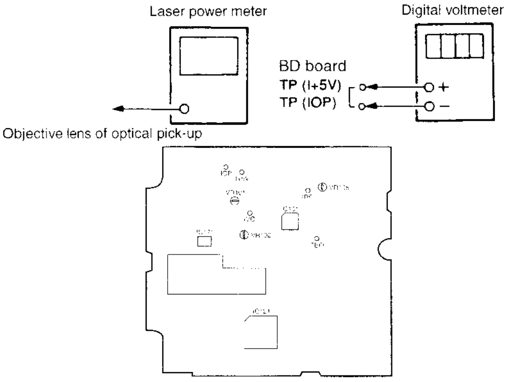
1. Turn the Rotary encoder to display "TEMP ADJUST".
2. Press the ENTER key to select the "TEMP ADJUST" mode.
3. The current temperature data is displayed as "TEMP=##".
4. To save data, press the ENTER key.
   To save no data, press the ERASE key.
5. When the ENTER key is pressed, "TEMP=##SAVE" is displayed for a while. After that, the display returns to "TEMP ADJUST". When the ERASE key is pressed, the display immediately returns to "TEMP ADJUST".

Specification :

The specified value should be in the range of "TEMP=E0" to "TEMP=1F"

2-6. Laser power adjustment

Connection :



Adjustment :

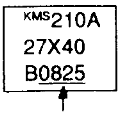
1. Put the laser power meter on the objective lens of the optical pick-up. (If the laser power meter cannot be put correctly, move the optical pick-up using ⏮ and ⏭ keys.) Connect the digital voltmeter to TP(IOP) and TP(I+5V).
2. Turn the Rotary encoder to display "LDPWR ADJUST". (Laser power : For adjustment use)
3. Press the ENTER key two times to display "LD$4B=3.5mW".
4. Adjust VR102 on the BD board so that the laser power meter reads 3.4 mW.
5. Press the ENTER key to display "LD$96=7.0mW". (Laser power : MO write)
6. Confirm that the laser power meter and digital voltmeter at that time read the specified value.

Specification :

Reading of laser power meter : 7.0 ±0.3 mW

Reading of digital voltmeter : Optical pick-up indication value ±10%

(Optical pick-up label)



In this case, Iop = 82.5 mA

Iop(mA) = Reading of digital voltmeter (mV)/1(Ω)

7. Press the ENTER key to display "LD$0F=0.7mW". (Laser power = MO read)
8. Confirm that the laser power meter at that time reads the specified value.

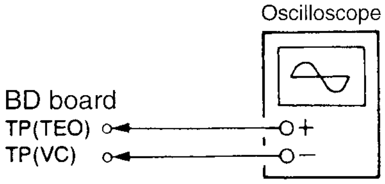
Specification :

Reading of laser power : 0.70 ±0.1 mW

9. Press the ERASE key to display "LDPWR ADJUST" and stop the laser emission. (The ERASE key can be pressed at any time to stop the laser emission.)

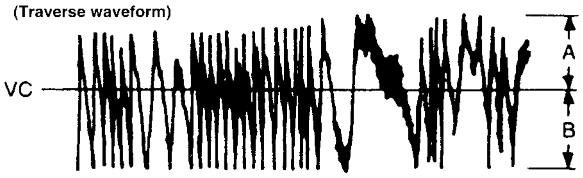
2-7. Traverse Adjustment

Connection :



Adjustment :

1. Connect the oscilloscope to TP(TEO) and TP(VC) on the BD board.
2. Insert a commercial recordable disk.
3. Press the ⏮ or ⏭ key to move the optical pick-up from the pick block to the outer circumference.
4. Turn the Rotary encoder to display "EFBAL ADJUST".
5. Press the ENTER key to display "EFBAL MO-W". (Laser power WRITE power, focus servo ON, tracking servo OFF, and spindle(S) servo ON)
6. Adjust VR101 on the BD board so that the waveform on the oscilloscope satisfies the specified value. (MO groove write power traverse adjustment)



Specification : A = B

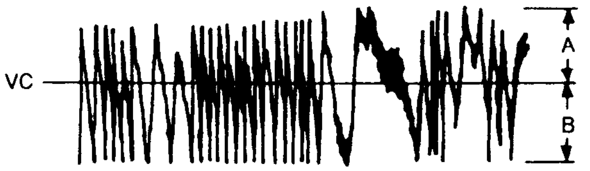
7. Enter the ENTER key to display "EFB=$#MO-R". (The display may require much time for its change or may not change. However, proceed to the next adjustment because adjustment is possible.) (Laser power : MO read)
8. Turn the Rotary encoder so that the waveform on the oscilloscope satisfies the specified value. (When the Rotary encoder is turned, the #-marked figure in "EFB=$#" changes and the waveform also changes.) During this adjustment, the oscilloscope changes in units of about 3%. Adjust so that the waveform comes nearest to the specified value. (MO groove read power traverse adjustment)

Note :

1. The "#" display on the screen indicates an arbitrary figure.
2. "VR###" printed on Schematic diagram and Parts list, through "RV###" printed on PCB.

CIRCUIT DESCRIPTION

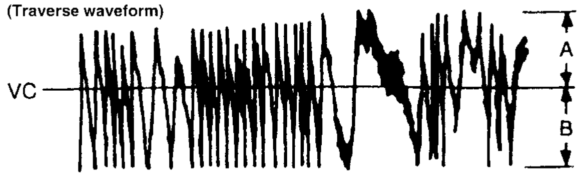
(Traverse waveform)



Specification : A = B

9. Press the ENTER key to display "EFB=$#SAVE" momentarily and save the adjustment result in non-volatile memory. After that, "EFBAL MO-P" is displayed.
10. Press the ENTER key to display "EFB=$#MO-P". The optical pick-up automatically moves to the area of the pit block to establish a servo. (The display may require much time for its change or may not change. However, proceed to the next adjustment because adjustment is possible.)
11. Turn the Rotary encoder so that the waveform on the oscilloscope comes near to the specified value. During this adjustment, the waveform changes in units of about 3%. Adjust so that the waveform comes nearest to the specified value.

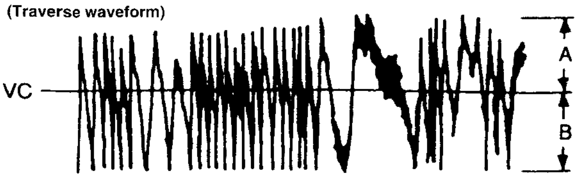
(Traverse waveform)



Specification : A = B

12. Press the ENTER key to display "EFB=$#SAVE" momentarily and save the adjustment result in non-volatile memory. After that, "EFBAL CD" is displayed. The disc rotation stops automatically.
13. Press the EJECT key to take out a recordable disc.
14. Insert test disc TDYS-1.
15. Press the ENTER key to display "EFB=$#CD". A servo is established automatically.
16. Turn the Rotary encoder so that the waveform on the oscilloscope comes near to the specified value. During this adjustment, the waveform changes in units of about 3%. Adjust so that the waveform comes nearest to the specified value.

(Traverse waveform)

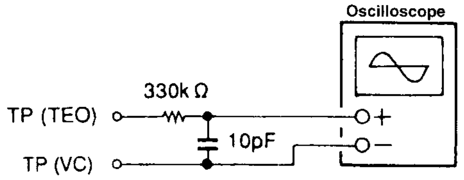


Specification : A = B

17. Press the ENTER key to display "EFB=$#SAVE" momentarily and save the adjustment result in non-volatile memory. After that, "EFBAL ADJUST" is displayed.
18. Press the EJECT key to take out test disc TDYS-1.

Notes :

1. Data is erased during MO write when a recorded disc is used for this adjustment.
2. If the traverse waveform is difficult to be monitored, connect an oscilloscope as shown in the figure below.



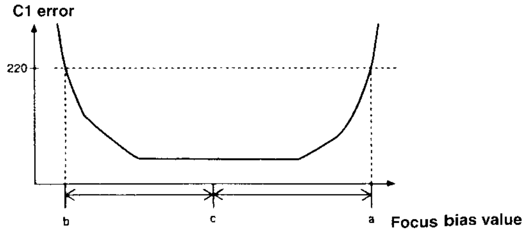
2-8. Focus bias adjustment

Connection :

1. Insert a continuously recorded disc (refer to 2-4, "Creating the recordable continuous recording disc").
2. Turn the Rotary encoder to display "CPLAY MODE".
3. Press the ENTER key two times to display "CPLAY MID".
4. Press the DISPLAY MODE key two times. Press the ERASE key when "CPLAY(030#) is displayed.
5. Turn the Rotary encoder to display "FBIAS ADJUST".
6. Press the ENTER key to display "####/##a=##". The first four-digit figure indicates the C1 error rate, the two-digit figure after "/" indicates ADER, and the two-digit figure after "a=" indicates the focus bias value.
7. Turn the Rotary encoder clockwise and detect the focus bias value in which the C1 error rate becomes 220.
8. Press the ENTER key to display "####/##b=##".
9. Turn the Rotary encoder counterclockwise and detect the focus bias value in which the C1 error rate becomes 220.
10. Press the ENTER key to display "####/##c=##".
11. Confirm that the C1 error rate at that time is less than 50 and that ADER is 00, then press the ENTER key.
12. If the value indicated by "(##)" in the "##-##-##(##)" display is more than 20, press the ENTER key. If it is less than 20, press the ERASE key and readjust steps 2 and later.
13. Press the EJECT key to take out a continuous recording disc.

Notes :

1. The relation between the C1 error and focus bias value is shown in the figure below. Points "a" and "b" in the figure are detected by the above adjustment. Focal position "C" is automatically obtained from points "a" and "b" by calculation.
2. The C1 error rate fluctuates. Therefore, perform the adjustment according to the observed mean value.



Note : The "#" display on the screen indicates an arbitrary figure.

CIRCUIT DESCRIPTION

2-9. Error rate confirmation

2-9-1. CD error rate confirmation

Confirmation :

1. Insert test disc TDYS-1.
2. Turn the Rotary encoder to display "CPLAY MODE".
3. Press the ENTER key two times to display "CPLAY MID".
4. "C1=####AD=##" is displayed.
5. Confirm that the C1 error rate is less than 20.
6. Press the ERASE key to stop the playback, then press the EJECT key to take out a test disc.

2-9-2. MO error rate confirmation

Confirmation :

1. Insert a continuously recorded disc (refer to 2-4, "Creating the recordable continuous recording disc").
2. Turn the Rotary encoder to display "CPLAY MODE".
3. Press the ENTER key two times to display "CPLAY MID".
4. "C1=####AD=##" is displayed.
5. Confirm that the C1 error rate is less than 50 and that ADER is 00.
6. Press the ERASE key to stop the playback, then press the EJECT key to take out a continuous recording disc.

2-10. Focus bias confirmation

Change the focus bias value and check the focus tolerance value.

Confirmation :

1. Insert a continuously recorded disc (refer to 2-4, "Creating the recordable continuous recording disc").
2. Turn the Rotary encoder to display "CPLAY MODE".
3. Press the ENTER key two times to display "CPLAY MID".
4. Press the DISPLAY MODE key two times, then press the ERASE key when "CPLAY(030#)" is displayed.
5. Turn the Rotary encoder to display "FBIAS CHECK".
6. Press the ENTER key to display "####/##c=##". The first four-digit figure indicates the C1 error rate, the two-digit figure after "/" indicates ADER, and the two-digit figure after "c=" indicates the focus bias value. At that time, confirm that the C1 error rate is less than 50 and that ADER is 00.
7. Press the ENTER key. The display then changes to "####/##b=##". At that time, confirm that the C1 error rate does not become less than 220 and that ADER does not always become more than 00.
8. Press the ENTER key. The display then changes to "####/##a=##". At that time, confirm that the C1 error rate does not become less than 220 and that ADER does not always become more than 00.
9. Press the ERASE key, then press the EJECT key to take out a continuously recorded disc.

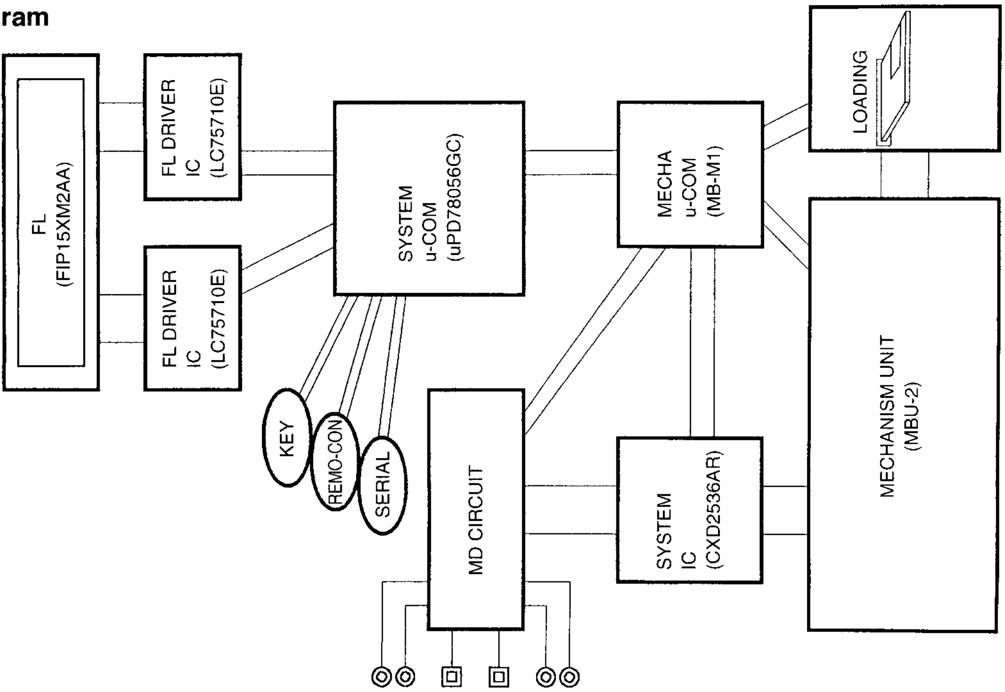
Note :

If the C1 error rate or ADER at only point "a" or "b" is more than 00, the focus bias may have been adjusted incorrectly. In this case, readjust the focus bias.

Note : The "#" display on the screen indicates an arbitrary figure.

3. Microprocessor : MB-M1 (X33, IC2)
UPD78056GC-105 (X33, IC3)

3-1. Block diagram



CIRCUIT DESCRIPTION

3-2. Pin description : Mechanism u-com (MB-M1 / X33; IC2)

No.	Name	I/O	Description
1	EMP	I	Fixed to "L".
2	C. SET 0	I	Fixed to "L".
3~6	KEY3~KEY0	I	Key input; Not used. (Fixed to "L".)
7		I	Fixed to "L".
8	XINT	I	Interrupt status input from CXD2536R (IC1)
9	SENS	I	Internal status (SENS) input from CXD2535BR (IC121)
10	SHCK	I	Track jump signal input from CXD2535BR (IC121)
11	AUBK	I	Audio buss signal input (Not used; Fixed to "L".)
12	$\overline{\mathrm{S}}$/A	O	Not used.
13	BEEP SW	I	Fixed to "L".
14	$\overline{\mathrm{REC}}$/OTHER	O	Rec:L; Other:H
15	BEEP	O	Not used. (Open)
16	F.BIAS/C2	I	Fixed to "L".
17	GND	–	GND
18	SYSTEM RST	I	System reset signal input. Inputs "L" for some hundreds of msec after the power is turned on. After that, set "H".
19	XIN T	I	Not used; Fixed to "L".
20	XOUT T	O	Not used; Fixed to "L".
21	GND	–	GND
22	XIN	I	Clock input (8 MHz)
23	XOUT	O	Clock output (8 MHz)
24	+ 5V	–	Power supply (+ 5V)
25	STB	O	Strobe signal output to Power circuit; Power ON:H; Stand-by:L
26, 27	MIC SW	I	Fixed to "L".
28	BUS OUT	O	Not used. (Open)
29		I	Fixed to "L".
30, 31	LED2, LED1	I	Not used. (Connected to GND)
32	LED0	O	Not used. (Connected to GND)
33	C1	I	Fixed to "L".
34	ADER	I	Fixed to "L".
35	NC	I	Fixed to "L".
36	MASTER/SLAVE	I	Not used; Fixed to "L".
37, 38	JOG1, JOG0	I	Not used. (Connected to GND)
39	SDA	I/O	Data signal input/output to Back-up memory (IC171)
40	SCL	O	Clock signal output to Back-up memory (IC171)
41	POWER/DOWN	I	Power down detection; Normally:H
42	REMOCON	I	Not used; Fixed to "H".
43	ATSY	I	ATP address or subcode Q sync (SCOR) input from CXD2535BR (IC121). "L" is input every 13.3 msec. In almost all cases, set "H".
44	DQSY	I	Subcode Q sync (SCOR) input, based on digital-in U-bit CD format, from CXD2535BR (IC121). "L" is input every 13.3 msec. In almost all cases, set "H".
45~48		I	Fixed to "L".
49	SCLK	O	Clock signal output to Serial buss
50	SWDT	O	Writing data signal output to Serial buss
51	SRDT	I	Reading data signal input from Serial buss
52		I	Connected to Pin-51

CIRCUIT DESCRIPTION

No.	Name	I/O	Description
53	FLCLK	O	Not used. (Open)
54	FLDATA	O	Not used. (Open)
55	FLCS	O	Not used. (Open)
56		I	Fixed to “L”.
57	TEST0	I	Fixed to “L”.
58	TEST1	O	Reset signal output to CXD2536R (IC1)
59, 60		I	Fixed to “L”.
61	AFAST	I	Fixed to “L”.
62	SLOW	I	Fixed to “L”.
63	LDON	O	Laser ON/OFF control output; Laser ON:H
64	P/GROOVE	I	Pit/groove detection input. Inputs “H” using a playback-only disc or in the TOC area. Not used in this set. Fixed to “L”.
65	FOK	I	FOK signal input from CXD2535BR (IC121). “H” is input when a focus is established.
66	MON	I	Not used. (Pull-down)
67	LOCK	O	Not used. (Pull-down)
68	WRPWR	O	Laser power selection signal output to optical block and CXD2535BR (IC121)
69	DIG RST	O	Reset signal output to CXA1981AR (IC101), CXD2535BR (IC121), Motor driver (IC151); Reset:L
70	DA RST	O	Reset signal output to DA/AD converter (IC7); Reset:L
71, 72	SCMD1, SCMD0	O	Serial command control mode output to CXD2536R (IC1)
73	MOD	O	Laser modulation switch signal output; Play:L, Stop:H
74	REC/PB	O	Rec/Play switch signal output to CXD2535BR (IC121); Rec:H, Play:L
75	WR/MN	O	Write/Monitor mode switch signal output to CXD2536R (IC1)
76	SCTX	O	Writing data sending timing output to CXD2536R (IC1)
77	XLATCH	O	Latch signal output to Serial buss
78	DFLATCH	O	Not used; Fixed to “H”.
79	DFMUTE	O	Mute output; Not used. (Connected to GND)
80	AMUTE	O	Line out muting output
81	LDOUT	O	Loading motor control output
82	LDIN	O	Loading motor control output
83	CHKIN	I	Detection from REC SW (S1); Rec:L, Other:H
84	INSW	I	Detection from PLAY SW (S2); Play/Rec:L, Other:H
85	OUTSW	I	Detection from Loading out SW (S3); Load-out:L, Other:H
86	PROTECT	I	Write protect tab detection input from Protect detection SW (S102-1); Protect:H
87	REFLECT	I	Disc reflectance detection input from reflect detection switch (S102-2). Set “H” for low-reflectance disc.
88	LIMIT IN	I	Detection input from Remit in SW (S101); Sled limit in:L
89	CTS	O	CTS output to System u-com (UPD78056GC-105)
90	RTS	I	RTS input from System u-com (UPD78056GC-105)
91	TXD	I	TXD input from System u-com (UPD78056GC-105)
92	RXD	O	RXD output to System u-com (UPD78056GC-105)
93~96		I	Fixed to “L”.
97	AVSS	–	GND
98	VREF (+ 5V)	I	Reference voltage (+ 5V)
99	TIMER REC/PLAY	I	Timer Rec/Play/Off switch input
100	INPUT SELECT	I	Not used; Fixed to “L”.

3-3. Initialization

1. Initialization of microcomputer
A microcomputer is initialized for start when the AC power is turned on while pressing the ENTER key. At that time, a SONY mechanical microcomputer is also initialized. When the microcomputer is initialized with the disc inserted, the disc is ejected. Therefore, the UTOC information that was recorded lastly is erased (the last disc write state is returned).

2. Software reset
A software reset is established when the REPEAT key is pressed for three seconds during the normal power-on sequence. Since the MD of this time is constituted by communication based on two microcomputers, any key may not be able to be accepted due to communication faults. The communication at that time can be initialized. In this case, the UTOC information in a disc is maintained.

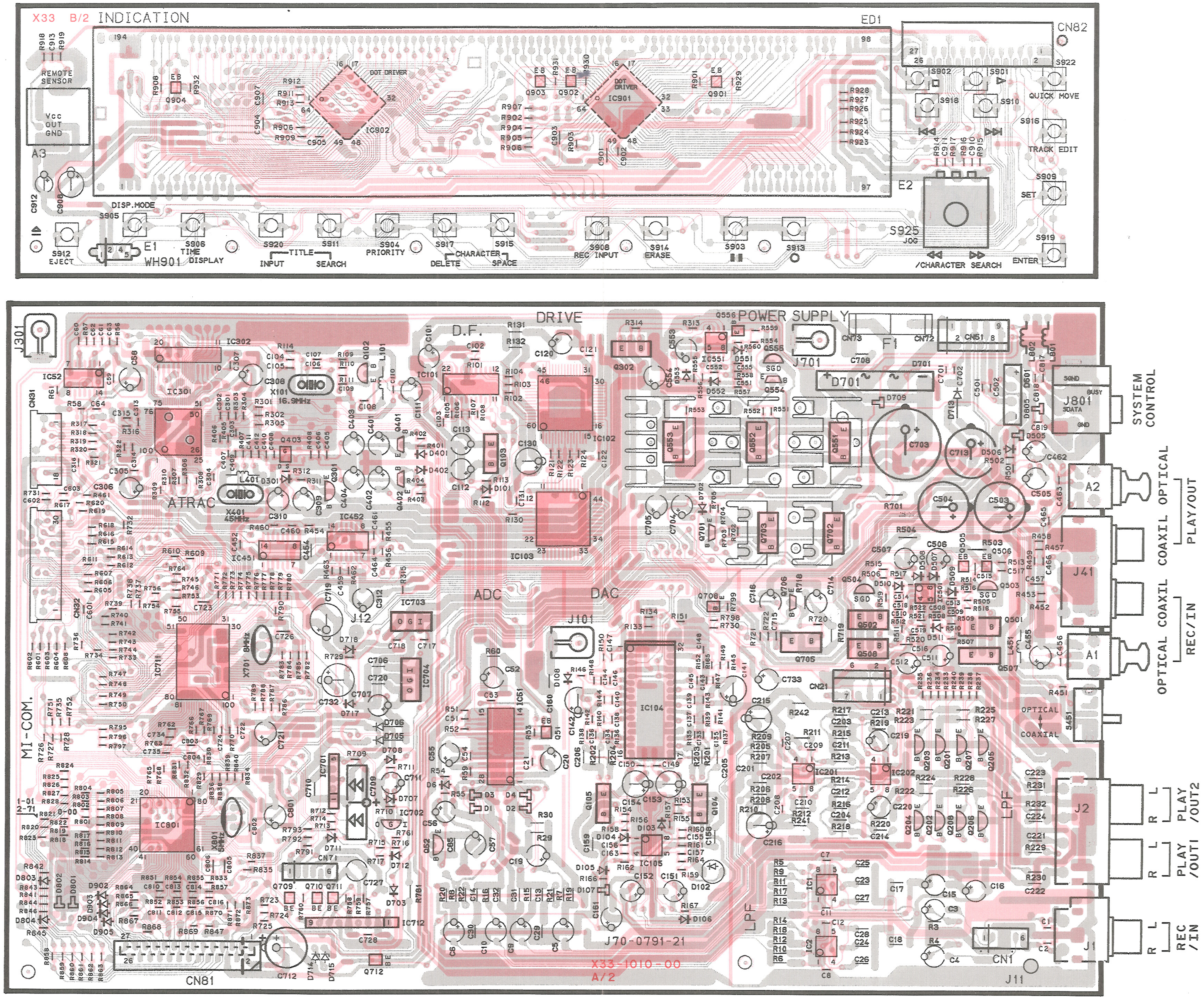
3. Hardware reset
A hardware reset is established when the AUTO/MANUAL key is pressed for five seconds during the normal power-on sequence. Since the MD of this time is constituted by communication based on two microcomputers, any key may not be able to be accepted due to communication faults. The communication at that time can be initialized. In this case, the microcomputer is completely initialized, so the UTOC information in a disc is cleared.

3-4. Initial status

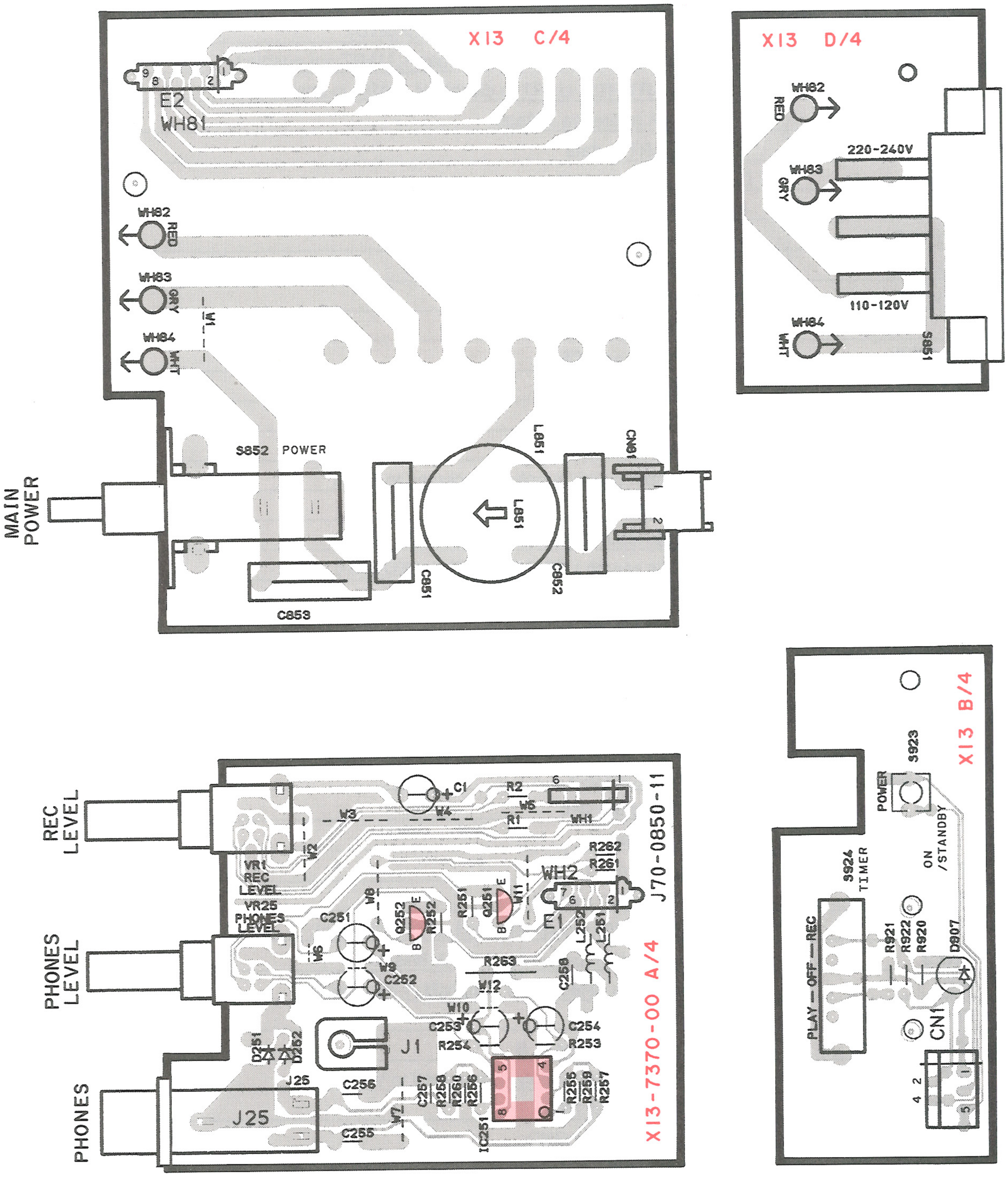
POWER	OFF	●
REC INPUT	ANALOG	●
AUTO/MANUAL	AUTO	○
PLAY MODE	TRACK MODE	○
REPEAT	OFF	○
DEMO	OFF	○
TIME DISPLAY	SINGLE (+)	○
DISPLAY MODE	A MODE	○

● : Backed up.; ○ : Not backed up.

PC BOARD (Component side view) MD unit (X33-101X-XX) 1-01 ; P 2-71 ; ME


A
B
C
D
E
F
G
H
I
J
1
2
3
4
5
6
7
X33 B/2 INDICATION
ED1
CN82
REMOTE SENSOR
Vcc OUT GND
A3
IC902
IC901
DOT DRIVER
S902
S901
S922
S918
S910
QUICK MOVE
S916
TRACK EDIT
S909
SET
S925
JOG
S919
ENTER
/CHARACTER SEARCH
DISP.MODE
S905
S912
EJECT
E1
WH901
S906
TIME
DISPLAY
S920
INPUT
S911
TITLE
SEARCH
S904
PRIORITY
S917
DELETE
S915
CHARACTER
SPACE
S908
REC INPUT
S914
ERASE
S903
S913
E2
J301
DRIVE
D.F.
POWER SUPPLY
ATRAC
ADC
DAC
LPF
MI-COM.
IC52
IC301
IC302
IC101
IC102
IC103
IC104
IC105
IC451
IC452
IC701
IC702
IC703
IC704
IC711
IC712
IC801
IC201
IC202
X101 16.9MHz
X401 45MHz
X701
X801
J101
J12
J701
J801
SYSTEM CONTROL
A2
OPTICAL COAXIL PLAY/OUT
J41
A1
COAXIL OPTICAL REC/IN
OPTICAL COAXIAL
J2
L R PLAY /OUT2
L R PLAY /OUT1
J1
L R REC /IN
CN1
J11
CN81
CN21
CN31
CN32
CN51
CN71
CN72
CN73
F1
D701
C703
C713
C504
C503
1-01 2-71
X33-1010-00 A/2
J70-0791-21

Sub-Circuit unit


X13 C/4
E2
WH81
WH82
RED
WH83
GRY
WH84
WHT
W1
S852
POWER
MAIN POWER
L851
CN81
C851
C852
C853
X13 D/4
220-240V
110-120V
S851
REC LEVEL
PHONES LEVEL
PHONES
VR1 REC LEVEL
VR25 PHONES LEVEL
C1
R1
R2
W2
W3
W4
W5
W6
W8
W9
W10
W11
W12
WH1
WH2
E1
Q251
Q252
R251
R252
R253
R254
R255
R256
R257
R258
R259
R260
R261
R262
R263
C251
C252
C253
C254
C255
C256
C257
C258
L251
L252
D251
D252
J1
J25
IC251
J70-0850-11
X13-7370-00 A/4
X13 B/4
POWER
S923
ON /STANDBY
S924
TIMER
PLAY – OFF – REC
R920
R921
R922
D907
CN1

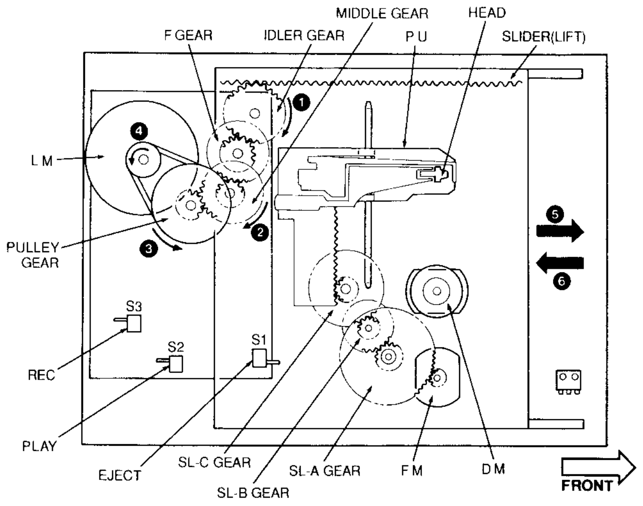
Refer to the schematic diagram for the values of resistors and capacitors.

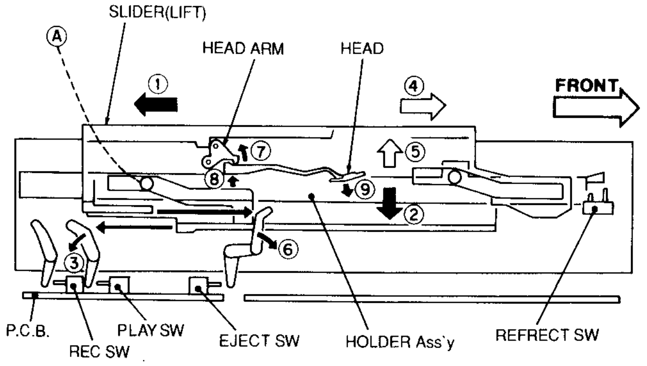
CIRCUIT DESCRIPTION

3-5 Pin description : System u-com (UPD78056GC-105 / X33; IC3)

No.	Name	I/O	Description
1	ADRES	O	DAC A/D reset; A/D reset:L
2	SRES	O	Mechanism u-com soft reset; Mechanism u-com Power down:L
3	ADCAL	O	DAC A/D calibulation; A/D ON:H, A/D OFF:L
4	AVSS	–	A/D power supply (Connected to GND)
5	CTS	I	UART CTS; UART out disable:H, UART out enable:L
6	RTS	O	UART RTS; UART in disable:H, UART in enable:L
7	AVREF1	–	D/A reference voltage
8	RXD	I	UART in data
9	TXD	O	UART out data
10		I	Not used.
11	FDV1CE	O	FL driver 1 CE
12	FDV1DT	O	FL driver 1 DT
13	FDV1CK	O	FL driver 1 CK
14, 15		–	Not used.
16	FDV2CE	O	FL driver 2 CE
17	FDV2DT	O	FL driver 2 DT
18	FDV2CK	O	FL driver 2 CK
19~32		–	Not used.
33	VSS	–	u-com power supply (Connected to GND)
34, 35		–	Not used.
36	LED TIN	O	Title input LED; LED OFF:H, LED ON:L
37	LED TSC	O	Title search LED; LED OFF:H, LED ON:L
38~42		–	Not used.
43	INISW3	I	Initial switch 3
44	SBUSY	I/O	16-bit serial BUSY
45	SDATA	I/O	16-bit serial DATA
46	INISW1	I	JAPAN:L, Except for JAPAN:H
47	INISW2	I	DM-F70:H, DM-F9:L
48~51	KS0~KS3	O	Key scan 0~3
52~58	KR0~6	I	Key return 0~6
59	TEST	I	Not used.
60	RESET	I	u-com reset
61	REM	I	Remo-con receive
62	CE	I	u-com CE; u-com enable:H, u-com disable:L
63	HRES	O	Mechanism u-com hard reset; Reset:H
64	W5V	I	+ 5V line detect; + 5V supply:H, + 5V down:L
65	POWER	O	Power ON:H
66, 67	JOGA, JOGB	I	Rotary encoder A, B
68	VDD	–	u-com power supply (Connected to VDD)
69, 70	X2, X1	I	Oscillator (5 MHz)
71	IC (VPP)	–	Connected to GND
72, 73	XT2, XT1	I	Not used.
74	AVDD	–	A/D power supply (Connected to VDD)
75	AVREF0	I	A/D reference voltage (Connected to + 5V)
76	TMSW	I	Timer SW; 0V:Normal, 2.5V:Play, 5V:Rec
77~80		–	Not used.

MECHANISM OPERATION





1. EJECT

1. Shaft of loading motor (LM) turns counter clock wise(❹) and pulley gear turns same direction(❸).
2. Middle gear turns clock wise (❷) and idle gear turns same direction .
3. Slider-lift moves front wards (❺) by turning of idle gear (❶)
4. Eject arm pushes eject switch (❻) by moving of slider-lift front (❹) wards.
5. LM stops to turn.

2. LOADING

1. Eject switch releases by sliding of slider-lift (❶) backwards.
2. LM turns clock wise. Idler and middle gears turn counter-clock wise, and pulley gear does clock wise. Slider-lift moves backwards (❻).
3. Sloder-lift and holder assy move backwards (❶).
4. Holder assy moves downwards by groove of slider and boss(A) of holder assy.
5. play switch works by play arm (❸) and moving of slider-lift backwards.
6. LM and slider-lift stops to work.

3. RECORDING

1. LM turns more clock wise and slider-lift moves backwards more.
2. Head of pickup moves downwards (❽,❾) by release of head arm (❼) and moving of slider-lift backwards (❶).
3. Rec switch works(play switch keeps on) by being pushed rec arm and moving of slider-lift backwards more.
4. LM and slider stops to work.

4. SWITCH FUNCTION

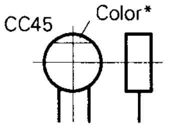
Ref. No.	SW NAME	ON (SW : LOW)
S1	EJECT SW	EJECT OK
S2	PLAY SW	PLAY OK
S3	REC SW	REC OK
S101	LIMIT SW	PICKUP FULL INSIDE
S102-1	PROTECT SW	PROTECT
S102-2	REFRECT SW	RECORDABLE DISC

PARTS DESCRIPTIONS

CAPACITORS

CC 45 TH 1H 220 J
1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc.
2 = Shape ... round, square, ect.
3 = Temp. coefficient
4 = Voltage rating
5 = Value
6 = Tolerance



• Capacitor value

010 = 1pF
100 = 10pF
101 = 100pF
102 = 1000pF = 0.001μF
103 = 0.01μF

2 2 0 = 22pF
Multiplier
2nd number
1st number

• Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	−150	−220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = −470 ± 60ppm/°C

• Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code
(%)	±0.25	±0.5	±2	±5	±10	±20	+40 −20	+80 - 20	+100 −0	More than 10μF - 10 ~ +50 Less than 4.7μF −10 ~ +75

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

• Voltage rating

2nd word / 1st word	A	B	C	D	E	F	G	H	J	K	V
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	–
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	–
3	1000	1250	1600	2000	2500	3150	4000	5000	6300	8000	–

• Chip capacitors

(EX) C C 7 3 F S L 1 H 0 0 0 J
1 2 3 4 5 6 7
(Chip) (CH, RH, UJ, SL)

(EX) C K 7 3 F F 1 H 0 0 0 Z
1 2 3 4 5 6 7
(Chip) (B, F)

☐ Refer to the table above.

1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Voltage rating
6 = Value
7 = Tolerance

Dimension (Chip capacitors)

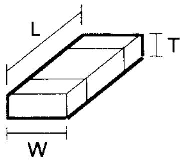
Dimension code	L	W	T
Empty	5.6 ± 0.5	5.0 ± 0.5	Less than 2.0
A	4.5 ± 0.5	3.2 ± 0.4	Less than 2.0
B	4.5 ± 0.5	2.0 ± 0.3	Less than 2.0
C	4.5 ± 0.5	1.25 ± 0.2	Less than 1.25
D	3.2 ± 0.4	2.5 ± 0.3	Less than 1.5
E	3.2 ± 0.2	1.6 ± 0.2	Less than 1.25
F	2.0 ± 0.3	1.25 ± 0.2	Less than 1.25
G	1.6 ± 0.2	0.8 ± 0.2	Less than 1.0

RESISTORS

• Chip resistor (Carbon)

(EX) R K 7 3 E B 2 B 0 0 0 J
1 2 3 4 5 6 7
(Chip) (B,F)

Dimension



• Carbon resistor (Normal type)

(EX) R D 1 4 B B 2 C 0 0 0 J
1 2 3 4 5 6 7

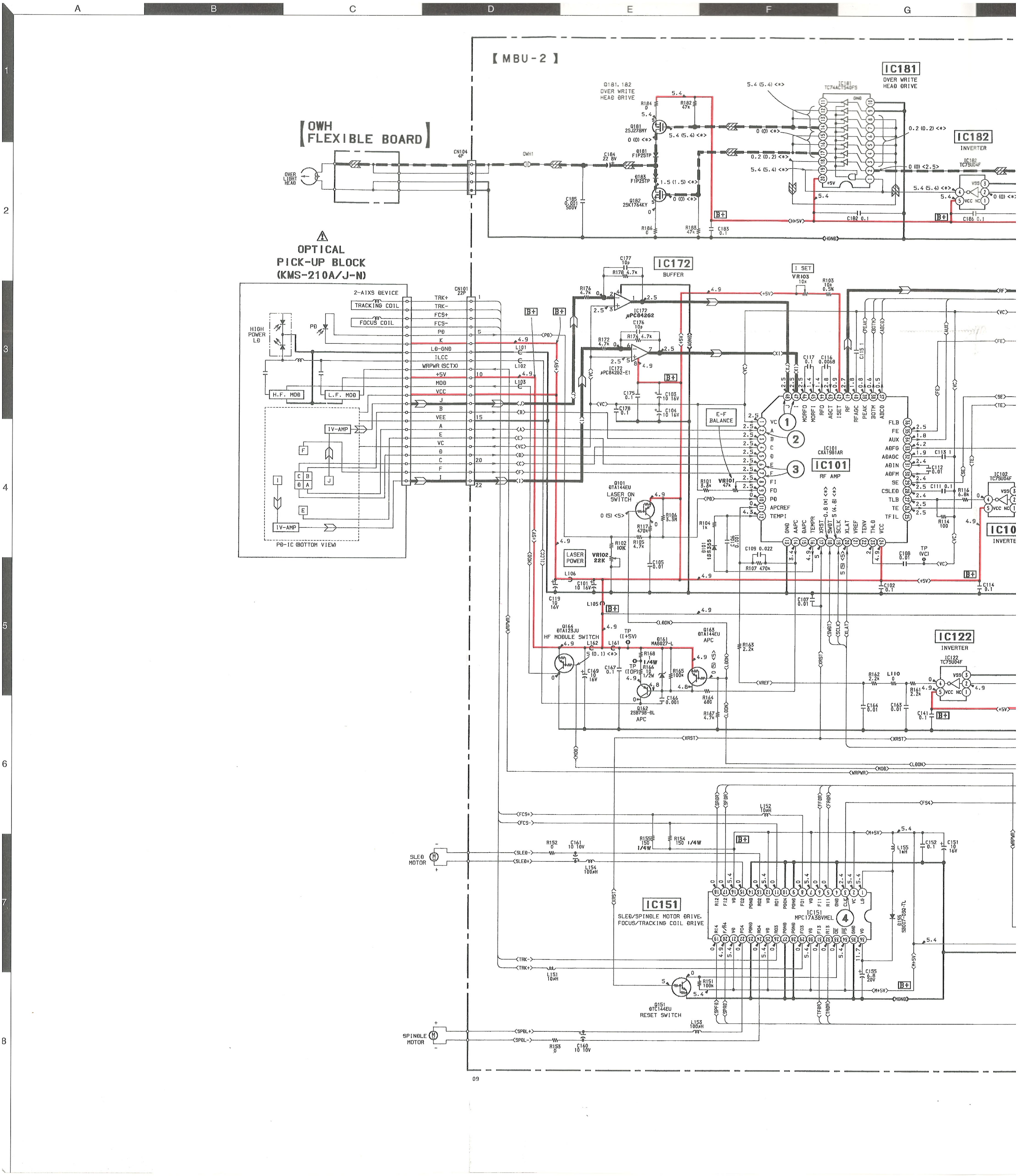
1 = Type
2 = Shape
3 = Dimension
4 = Temp. coefficient
5 = Rating wattage
6 = Value
7 = Tolerance

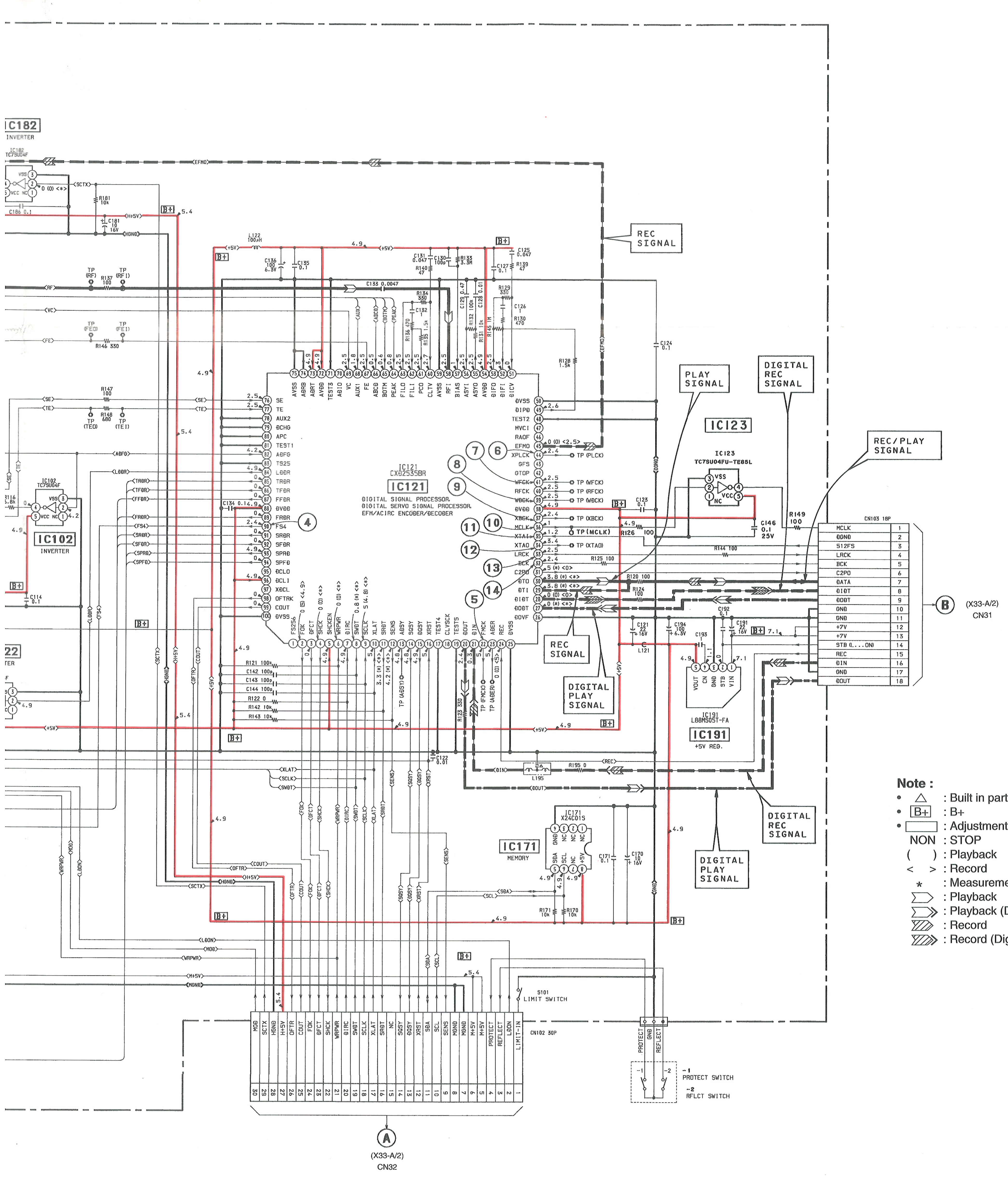
Dimension (Chip resistor)

Dimension code	L	W	T
E	3.2 ± 0.2	1.6 ± 0.2	1.0
F	2.0 ± 0.3	1.25 ± 0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1

Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		


A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
【MBU-2】
【OWH FLEXIBLE BOARD】
OVER LIGHT HEAD
CN104 4P
OWH1
Q181, 182 OVER WRITE HEAD DRIVE
Q181 2SJ278MY
Q182 2SK1764KY
D181 F1P2STP
D183 F1P2STP
C184 22 8V
C185 0.001 500V
IC181
OVER WRITE HEAD DRIVE
IC181 TC74ACT540FS
IC182
INVERTER
IC182 TC7SU04F
B+
OPTICAL PICK-UP BLOCK (KMS-210A/J-N)
2-AIXS DEVICE
TRACKING COIL
FOCUS COIL
HIGH POWER LD
PD
H.F. MOD
L.F. MOD
IV-AMP
PD-IC (BOTTOM VIEW)
CN101 22P
TRK+
TRK-
FCS+
FCS-
PD
K
LD-GND
ILCC
WRPWR (SCTX)
+5V
MOD
VCC
J
B
VEE
A
E
VC
D
C
F
I
IC172
BUFFER
IC172 μPC842G2
IC172 μPC842G2-E1
E-F BALANCE
I SET
VR103 10k
VR101 47k
IC101
RF AMP
IC101 CXA1981AR
Q101 DTA144EU
LASER ON SWITCH
LASER POWER
VR102 22K
Q164 DTA123JU
HF MODULE SWITCH
Q165 DTA144EU
APC
D161 MA8027-L
Q162 2SB798-DL
APC
TP (I+5V)
TP (IOP)
IC122
INVERTER
IC122 TC7SU04F
IC102 TC7SU04F
IC10
INVERTE
SLED MOTOR
SPINDLE MOTOR
IC151
SLED/SPINDLE MOTOR DRIVE, FOCUS/TRACKING COIL DRIVE
IC151 MPC17A38VMEL
D155 SB007-03Q-TL
Q151 DTC144EU
RESET SWITCH
09


IC182
INVERTER
IC182 TC7SU04F
REC SIGNAL
IC121 CX82535BR
IC121
DIGITAL SIGNAL PROCESSOR,
DIGITAL SERVO SIGNAL PROCESSOR,
EFM/ACIRC ENCODER/DECODER
IC102 TC7SU04F
IC102
INVERTER
PLAY SIGNAL
DIGITAL REC SIGNAL
IC123
IC123 TC7SU04FU-TE85L
REC/PLAY SIGNAL
CN103 18P
MCLK
DGND
512FS
LRCK
BCK
C2PO
DATA
DIDT
DODT
GND
GND
+7V
+7V
STB (L....ON)
REC
DIN
GND
DOUT
B (X33-A/2) CN31
REC SIGNAL
DIGITAL PLAY SIGNAL
IC191 L88MS05T-FA
IC191
+5V REG.
IC171 X24C01S
IC171
MEMORY
DIGITAL REC SIGNAL
DIGITAL PLAY SIGNAL
S101 LIMIT SWITCH
CN102 30P
MOD SCTX HGND H+5V OFTR COUT FOK DFCT SHCK WRPWR DIRC SWDT SCLK XLAT SRDT NC SQSY ABSY XRST SDA SCL SENS MGND MGND M+5V M+5V PROTECT REFLECT LDON LIMIT-IN
PROTECT GND REFLECT
-1 PROTECT SWITCH
-2 RFLCT SWITCH
A (X33-A/2) CN32

Note :

- △ : Built in parts.
- B+ : B+
- ▭ : Adjustment

NON : STOP

( ) : Playback

< > : Record

* : Measurement impassibl

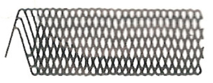
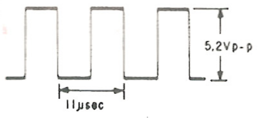
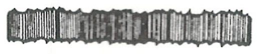
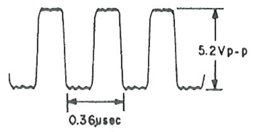
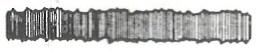
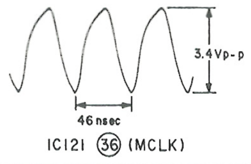
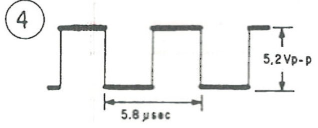
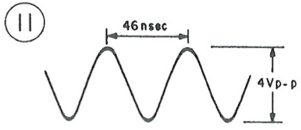
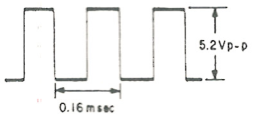
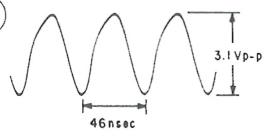
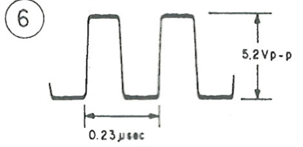
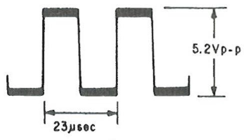
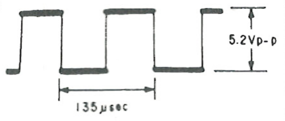
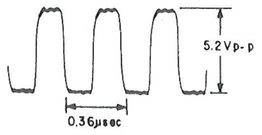
▷ : Playback

▷ : Playback (Digital)

▨ : Record

▨ : Record (Digital)

- Wave form

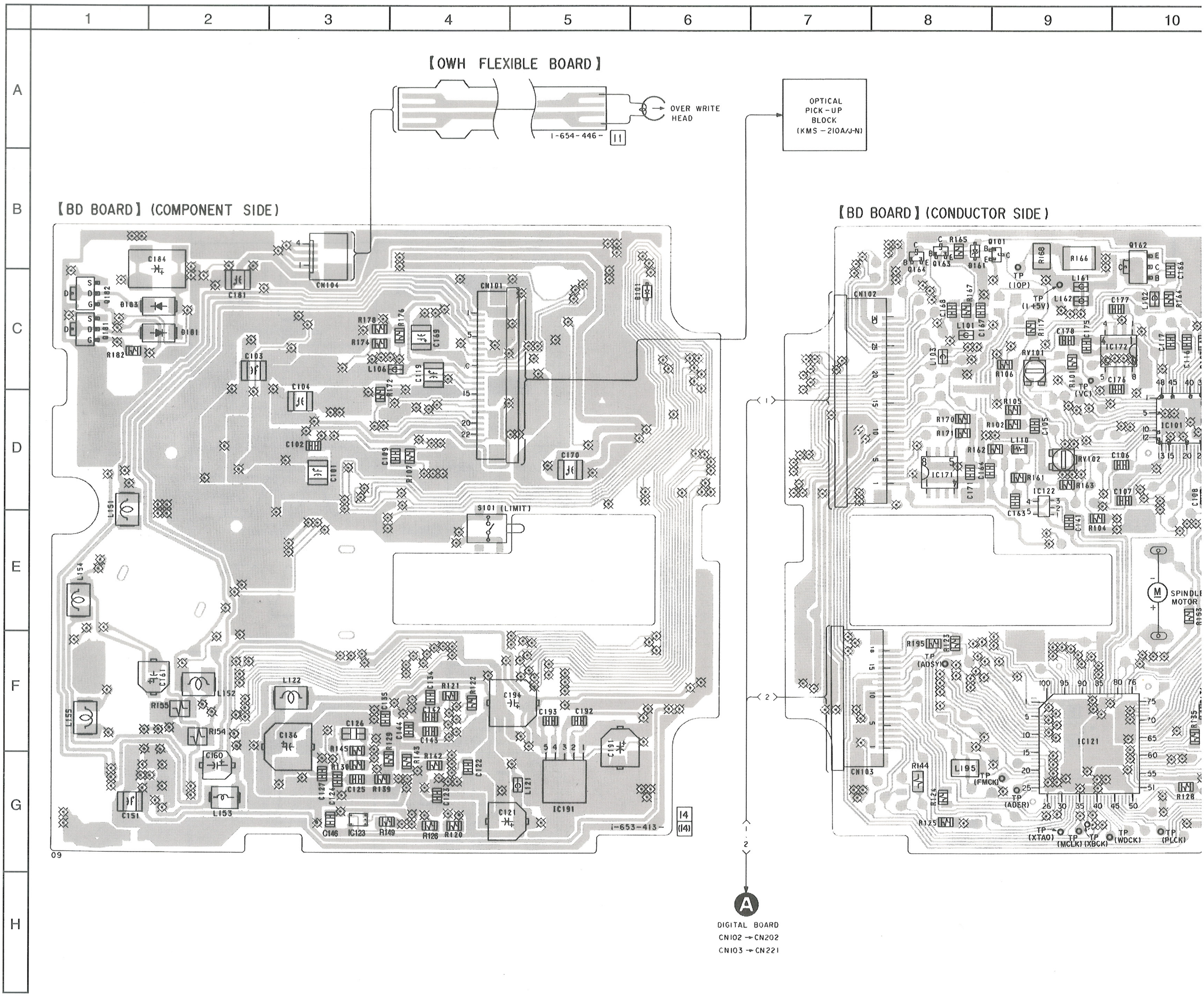
①  IC101 ㊼,㊽ (I,J) APPROX . 0.35Vp-p(PLAY mode)	⑧  IC121 ㊴ (WDCK)
②  IC101 ② (A) APPROX. 0.18Vp-p(PLAYmode)	⑨  IC121 ㊲ (XBCK)
③  IC101 ⑥,⑦ (E,F) APPROX. 0.08Vp-p(PLAY mode)	⑩  IC121 ㊱ (MCLK)
④  IC121 (90)(FS4),IC151 ③(CLK)	⑪  IC121 ㉟(XTAI)
⑤  IC121 ㉒ (FMCK)	⑫  IC121 ㉞(XTAO)
⑥  IC121 ㊹ (XPLCK)	⑬  IC121 ㉝(LRCK)
⑦  IC121 ㊶ WFCK	⑭  IC121 ㉜ (BCK)

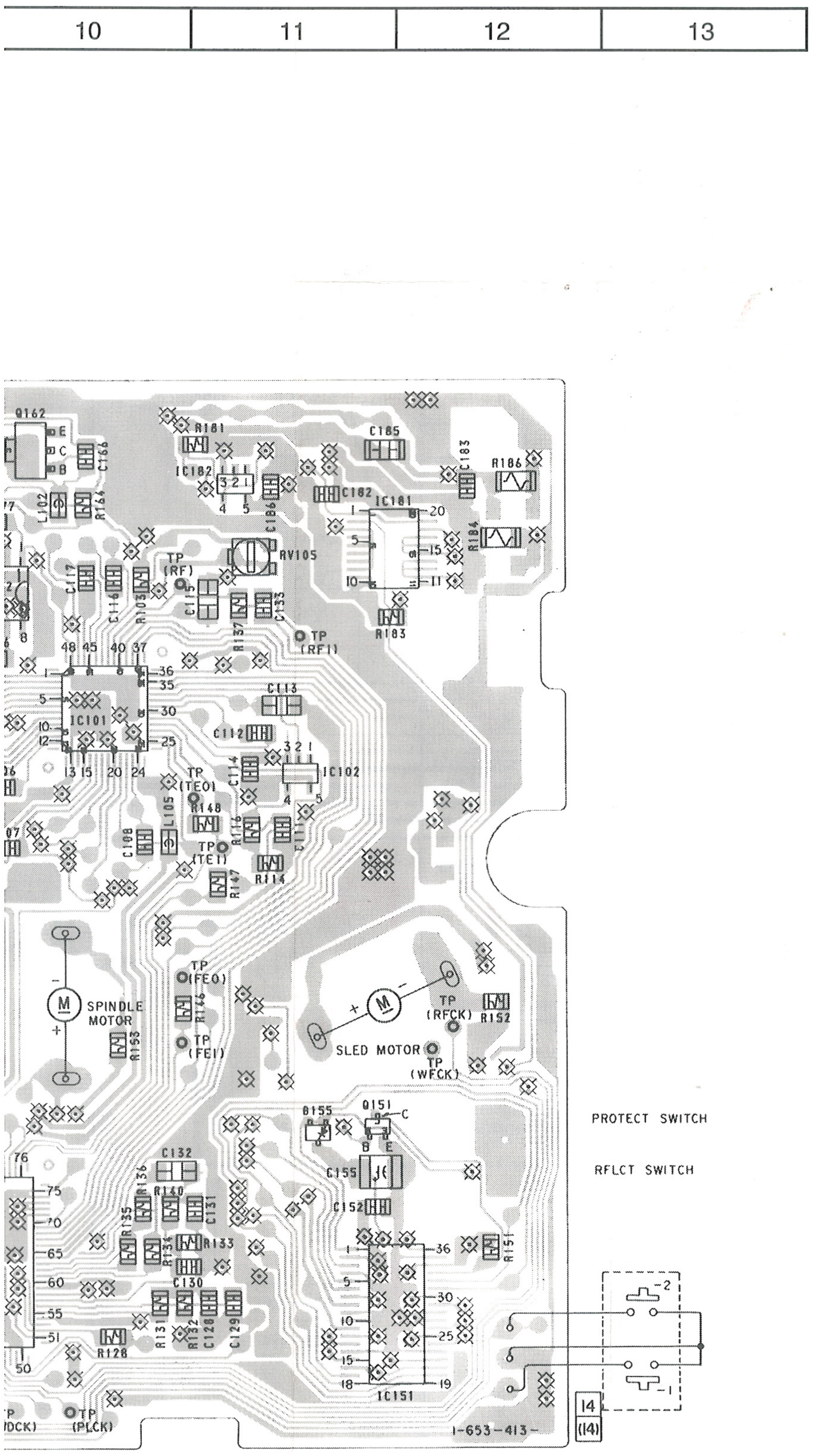
t impassible.

gital)

al)

MECHANISM PCB (MBU-2)


【OWH FLEXIBLE BOARD】
OVER WRITE HEAD
1-654-446-
11
OPTICAL PICK-UP BLOCK (KMS-210A/J-N)
【BD BOARD】(COMPONENT SIDE)
【BD BOARD】(CONDUCTOR SIDE)
CN101
CN102
CN103
CN104
S101 (LIMIT)
IC121
IC171
IC172
IC191
IC101
M SPINDLE MOTOR
TP (IOP)
TP (I+5V)
TP (VC)
TP (ADSY)
TP (FMCK)
TP (ADER)
TP (XTAO)
TP (MCLK)
TP (XBCK)
TP (WDCK)
TP (PLCK)
1-653-413-
14
(14)
09
A
DIGITAL BOARD
CN102 → CN202
CN103 → CN221


10
11
12
13
Q162
IC182
R181
C185
C183
R186
C182
IC181
R184
RV105
TP (RF)
TP (RFI)
R183
C113
IC101
C112
IC102
TP (TEO)
TP (TEI)
R148
R114
C108
SPINDLE MOTOR
TP (FEO)
TP (FEI)
SLED MOTOR
TP (RFCK)
TP (WFCK)
R152
R153
D155
Q151
C155
C152
C132
C130
R133
R128
IC151
R151
PROTECT SWITCH
RFLCT SWITCH
TP (PLCK)
1-653-413-
14 (14)

• Semiconductor location

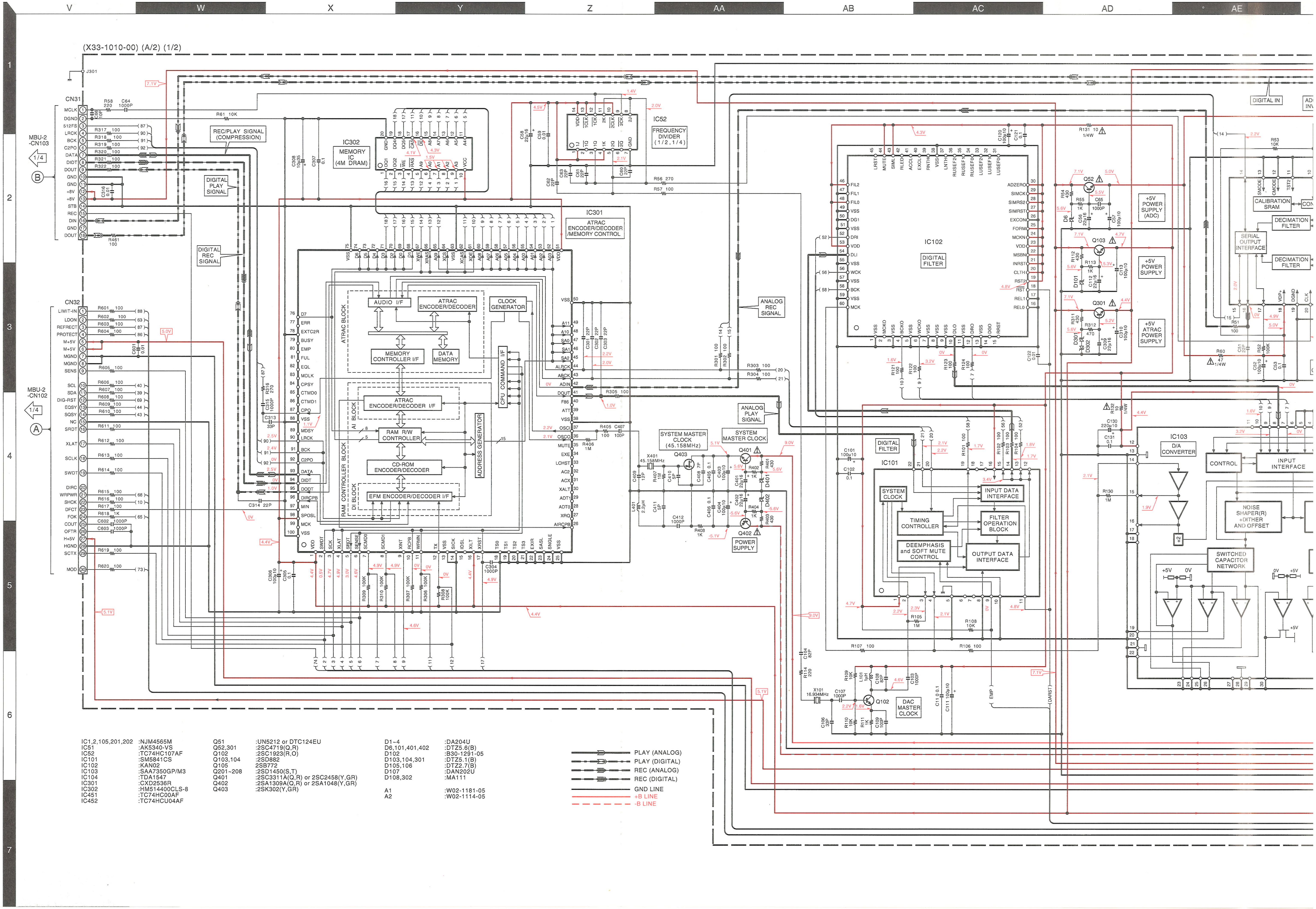
Pin. No.	Location
D101	C-6
D155	F-11
D161	B-8
D181	C-2
D133	C-2
IC101	D-10
IC102	D-11
IC121	F-9
IC122	D-9
IC151	G-12
IC171	D-8
IC172	C-10
IC181	C-12
IC182	C-11
IC191	G-5
Q101	B-9
Q151	F-12
Q162	B-10
Q163	B-8
Q164	B-8
Q181	C-1
Q182	C-1

Note :

- ○— : Wire from parts side.
- — : Wire from foil side.
- ⊗ : Through hole.
- ▨ : Viewpoint foil side.

Ref No. RV in pc board shows as VR in schematic diagram and parts list.

Refer to the schematic diagram for the values of resistors and capacitors.

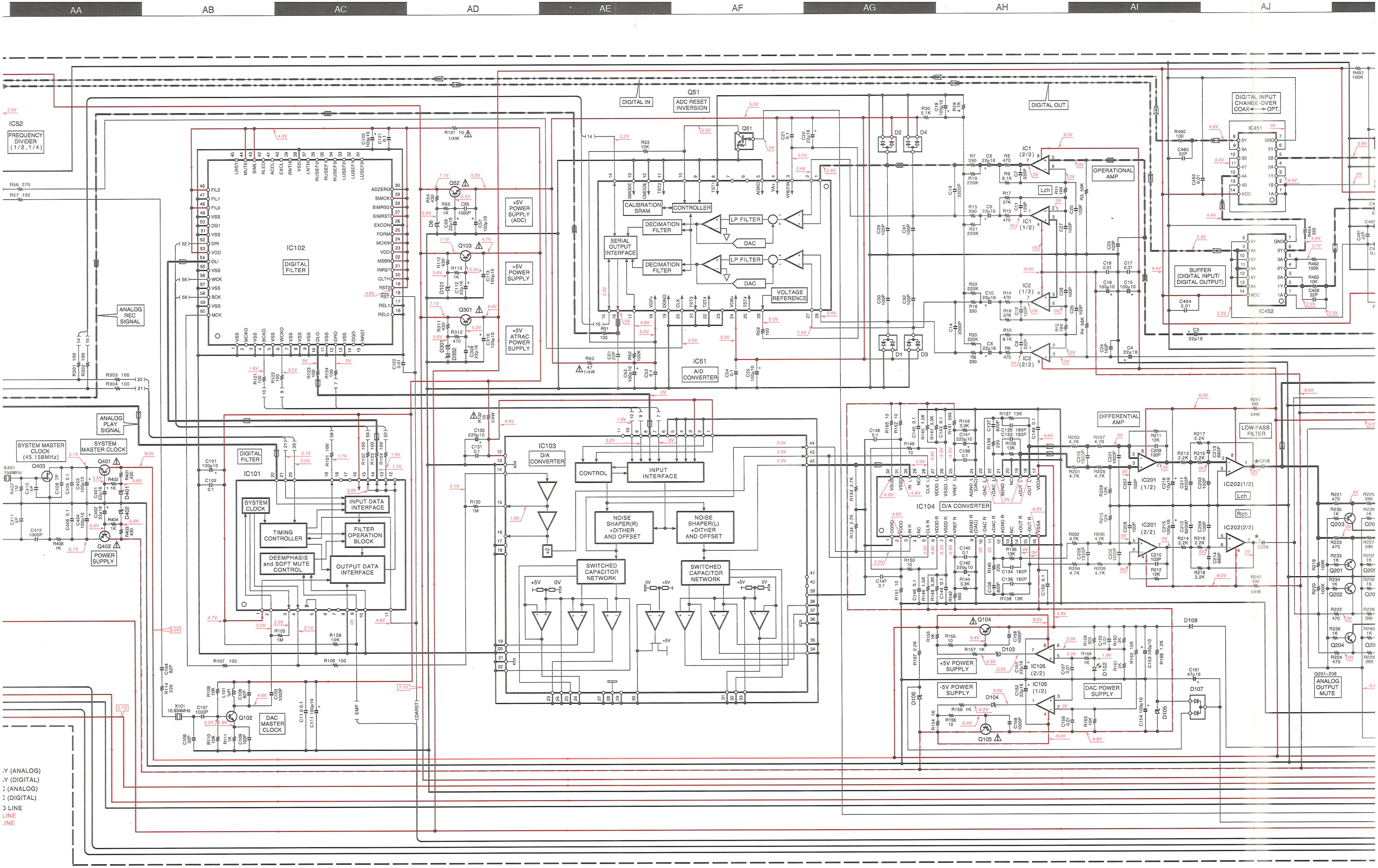

V
W
X
Y
Z
AA
AB
AC
AD
AE
1
2
3
4
5
6
7
(X33-1010-00) (A/2) (1/2)
J301
CN31
MBU-2 -CN103
1/4
B
MCLK
DGND
512FS
LRCK
BCK
C2PO
DATA
DIDT
DOUT
GND
GND
+8V
+8V
STB
REC
DIN
GND
DOUT
REC/PLAY SIGNAL (COMPRESSION)
DIGITAL PLAY SIGNAL
DIGITAL REC SIGNAL
IC302
MEMORY IC (4M DRAM)
IC52
FREQUENCY DIVIDER (1/2,1/4)
IC301
ATRAC ENCODER/DECODER /MEMORY CONTROL
ATRAC BLOCK
AUDIO I/F
ATRAC ENCODER/DECODER
CLOCK GENERATOR
MEMORY CONTROLLER I/F
DATA MEMORY
AI BLOCK
ATRAC ENCODER/DECODER I/F
RAM R/W CONTROLLER
CD-ROM ENCODER/DECODER
EFM ENCODER/DECODER I/F
RAM CONTROLLER BLOCK
DI BLOCK
ADDRESS GENERATOR
CPU COMMAND I/F
CN32
MBU-2 -CN102
1/4
A
LIMIT-IN
LDON
REFRECT
PROTECT
M+5V
M+5V
MGND
MGND
SENS
SCL
SDA
DIG-RST
EQSY
SQSY
NC
SRDT
XLAT
SCLK
SWDT
DIRC
WRPWR
SHCK
DFCT
FOK
COUT
OFTR
H+5V
HGND
SCTX
MOD
ANALOG REC SIGNAL
ANALOG PLAY SIGNAL
SYSTEM MASTER CLOCK (45.158MHz)
SYSTEM MASTER CLOCK
X401 45.158MHz
Q403
Q401
Q402
POWER SUPPLY
IC102
DIGITAL FILTER
IC101
DIGITAL FILTER
SYSTEM CLOCK
TIMING CONTROLLER
INPUT DATA INTERFACE
FILTER OPERATION BLOCK
DEEMPHASIS and SOFT MUTE CONTROL
OUTPUT DATA INTERFACE
X101 16.934MHz
Q102
DAC MASTER CLOCK
Q52
+5V POWER SUPPLY (ADC)
Q103
+5V POWER SUPPLY
Q301
+5V ATRAC POWER SUPPLY
IC103
D/A CONVERTER
CONTROL
INPUT INTERFACE
NOISE SHAPER(R) +DITHER AND OFFSET
SWITCHED CAPACITOR NETWORK
DIGITAL IN
CALIBRATION SRAM
DECIMATION FILTER
SERIAL OUTPUT INTERFACE
DECIMATION FILTER
PLAY (ANALOG)
PLAY (DIGITAL)
REC (ANALOG)
REC (DIGITAL)
GND LINE
+B LINE
-B LINE

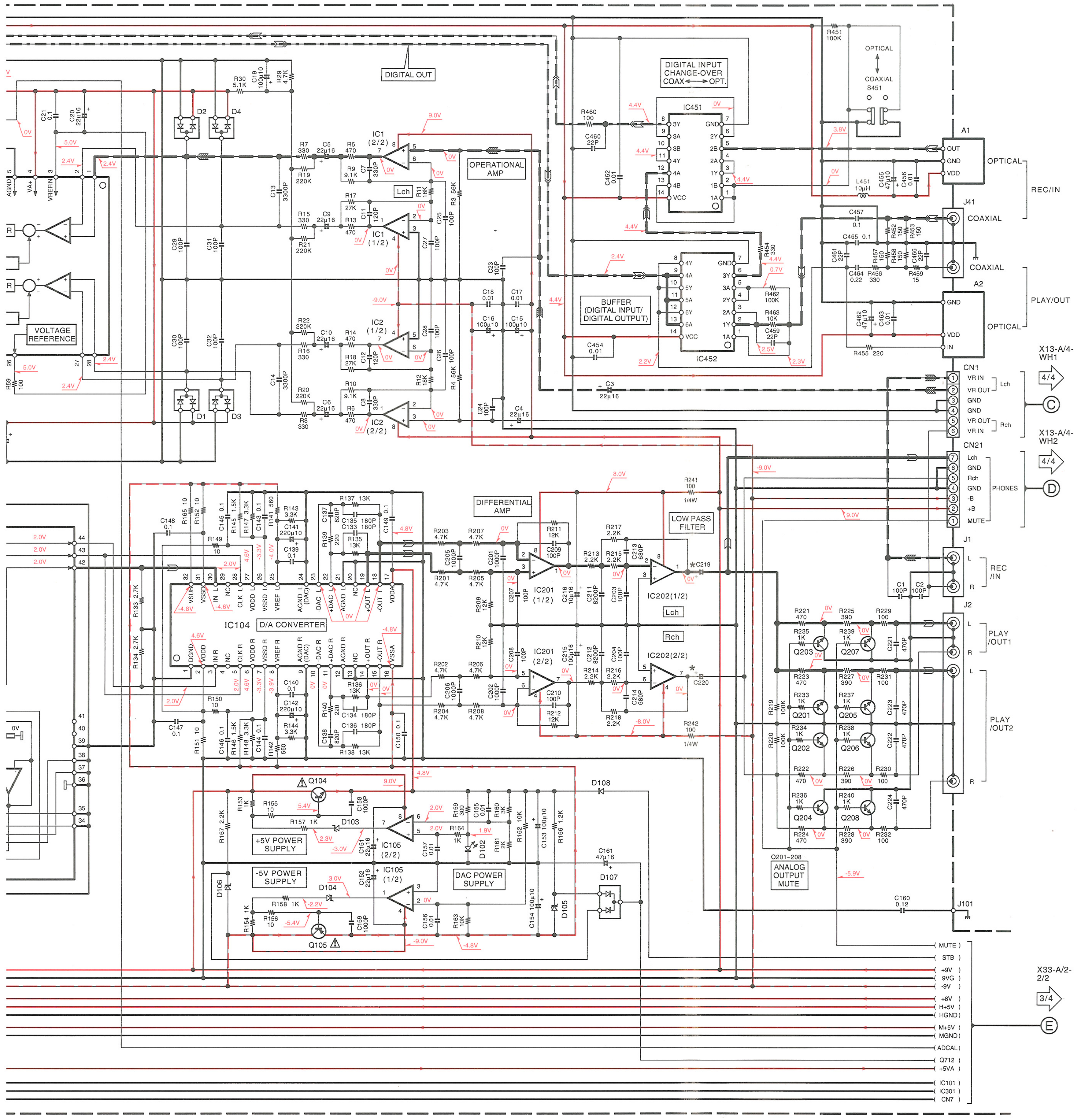
IC1,2,105,201,202 :NJM4565M
IC51 :AK5340-VS
IC52 :TC74HC107AF
IC101 :SM5841CS
IC102 :KAN02
IC103 :SAA7350GP/M3
IC104 :TDA1547
IC301 :CXD2536R
IC302 :HM514400CLS-8
IC451 :TC74HC00AF
IC452 :TC74HCU04AF

Q51 :UN5212 or DTC124EU
Q52,301 :2SC4719(Q,R)
Q102 :2SC1923(R,O)
Q103,104 :2SD882
Q105 2SB772
Q201~208 :2SD1450(S,T)
Q401 :2SC3311A(Q,R) or 2SC2458(Y,GR)
Q402 :2SA1309A(Q,R) or 2SA1048(Y,GR)
Q403 :2SK302(Y,GR)

D1~4 :DA204U
D6,101,401,402 :DTZ5.6(B)
D102 :B30-1291-05
D103,104,301 :DTZ5.1(B)
D105,106 :DTZ2.7(B)
D107 :DAN202U
D108,302 :MA111

A1 :W02-1181-05
A2 :W02-1114-05


AA
AB
AC
AD
AE
AF
AG
AH
AI
AJ
IC52
FREQUENCY DIVIDER (1/2, 1/4)
R56 270
R57 100
ANALOG REC SIGNAL
ANALOG PLAY SIGNAL
SYSTEM MASTER CLOCK (45.158MHz)
SYSTEM MASTER CLOCK
X401 45.158MHz
Q403
Q401
Q402
D401
D402
POWER SUPPLY
IC102
DIGITAL FILTER
LRS
MUTE
SIML
RLED
ACCL
EXCL
RNTH
VSS
LNTH
RUSEF2
RUSEF1
RUSEF0
LUSEF2
LUSEF1
LUSEF0
FIL2
FIL1
FIL0
VSS
DG1
VSS
DRI
VDD
DLI
VSS
WCK
VSS
BCK
VSS
MCK
ADZERO
SIMCK
SIMRS2
SIMRST
EXCON
FORM
MCKN
VDD
MSBN
INRST
CLTH
RST2
RST
REL1
REL0
MCKO
BCKO
WCKO
DLO
DRO
DGO
RRST
R131 10 1/4W
Q52
+5V POWER SUPPLY (ADC)
Q103
+5V POWER SUPPLY
Q301
+5V ATRAC POWER SUPPLY
D101
D301
D302
DIGITAL IN
Q51
ADC RESET INVERSION
CALIBRATION SRAM
CONTROLLER
SERIAL OUTPUT INTERFACE
DECIMATION FILTER
LP FILTER
DAC
VOLTAGE REFERENCE
IC51
A/D CONVERTER
SMODE
CMODE
TST2
TST1
AGND
VA+
VREFIN
VDD+
DGND
CLK
TST3
TST4
VDB+
R60 47 1/4W
DIGITAL OUT
IC1 (2/2)
IC1 (1/2)
IC2 (1/2)
IC2 (2/2)
OPERATIONAL AMP
Lch
D1
D2
D3
D4
DIGITAL INPUT CHANGE-OVER COAX ← → OPT.
IC451
BUFFER (DIGITAL INPUT/ DIGITAL OUTPUT)
IC452
R451 100K
DIGITAL FILTER
IC101
SYSTEM CLOCK
INPUT DATA INTERFACE
TIMING CONTROLLER
FILTER OPERATION BLOCK
DEEMPHASIS and SOFT MUTE CONTROL
OUTPUT DATA INTERFACE
R107 100
R106 100
R105 1M
R108 10K
X101 16.934MHz
Q102
DAC MASTER CLOCK
EMP
DARST
IC103
D/A CONVERTER
CONTROL
INPUT INTERFACE
NOISE SHAPER(R) +DITHER AND OFFSET
NOISE SHAPER(L) +DITHER AND OFFSET
SWITCHED CAPACITOR NETWORK
IC104
D/A CONVERTER
DIFFERENTIAL AMP
IC201 (1/2)
IC201 (2/2)
IC202(1/2)
IC202(2/2)
LOW PASS FILTER
Lch
Rch
Q104
Q105
D103
D104
+5V POWER SUPPLY
-5V POWER SUPPLY
IC105 (2/2)
IC105 (1/2)
DAC POWER SUPPLY
D102
D105
D106
D107
D108
Q201
Q202
Q203
Q204
Q201-208
ANALOG OUTPUT MUTE
Y (ANALOG)
Y (DIGITAL)
(ANALOG)
(DIGITAL)
LINE
LINE
LINE

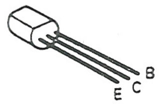

DIGITAL OUT
DIGITAL INPUT
CHANGE-OVER
COAX ←→ OPT.
OPTICAL
COAXIAL
S451
IC451
IC452
BUFFER
(DIGITAL INPUT/
DIGITAL OUTPUT)
OPERATIONAL
AMP
IC1 (2/2)
IC1 (1/2)
IC2 (1/2)
IC2 (2/2)
Lch
VOLTAGE
REFERENCE
D1
D2
D3
D4
A1
OUT
GND
VDD
OPTICAL
REC/IN
J41
COAXIAL
A2
PLAY/OUT
IN
CN1
VR IN
VR OUT
GND
Lch
Rch
X13-A/4-
WH1
4/4
C
X13-A/4-
WH2
CN21
PHONES
MUTE
D
J1
REC
/IN
J2
PLAY
/OUT1
PLAY
/OUT2
IC104
D/A CONVERTER
DIFFERENTIAL
AMP
LOW PASS
FILTER
IC201 (1/2)
IC201 (2/2)
IC202(1/2)
IC202(2/2)
Rch
Q201
Q202
Q203
Q204
Q205
Q206
Q207
Q208
Q201–208
ANALOG
OUTPUT
MUTE
Q104
Q105
+5V POWER
SUPPLY
-5V POWER
SUPPLY
DAC POWER
SUPPLY
IC105 (2/2)
IC105 (1/2)
D102
D103
D104
D105
D106
D107
D108
J101
C160
0.12
MUTE
STB
+9V
9VG
-9V
+8V
H+5V
HGND
M+5V
MGND
ADCAL
Q712
+5VA
IC101
IC301
CN7
X33-A/2-
2/2
3/4
E

DM-7080(2/4)

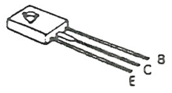
CAUTION: *For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.*

The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during RECORDABLE MD PLAY unless otherwise specified; The value shown in (   ) is the voltage measured at the moment of STOP. The voltage followed by (REC) refers to the value during MD RECORDING.

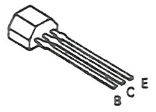
2SC1923



2SB772
2SD882

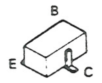


2SA1048
2SC2458

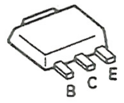


DTA123JU
DTA124EU
DTA144EU
DTC124EU
DTC144EU

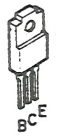
2SA1576
2SC4081



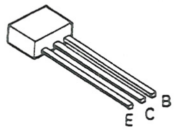
2SB798-DL



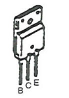
2SB1370
2SD2061



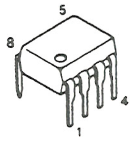
2SA1309A
2SC3311A



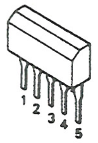
2SB1375
2SD2012



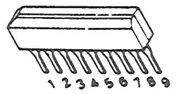
NJM4565D-D



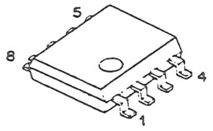
M62005L



TA8409S



NJM4565M

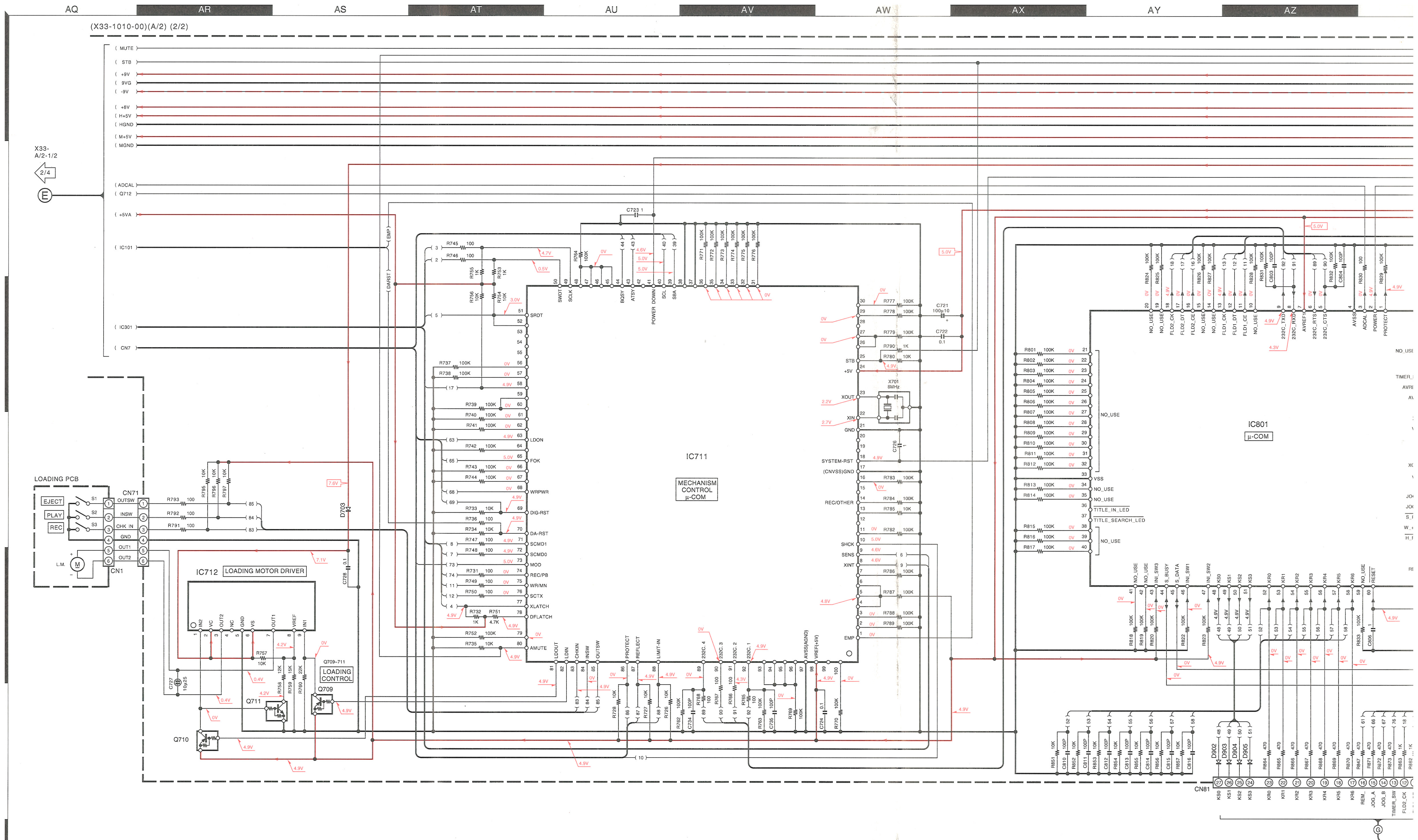


DESTINATION		UNIT NO.	F1	C219 220	R781	W1
COUNTRY	ABB					
CANADA	P	1–01	F04-2025-05 2A 250V	22u16	1 1/4W	X
GENERAL MARKET	M	2–71	F06-2021-05 T2A L 250V	22u16	1 1/4W	X
EUROPE	E	2–71	F06-2021-05 T2A L 250V	10u50	NO	YES

DM-7080

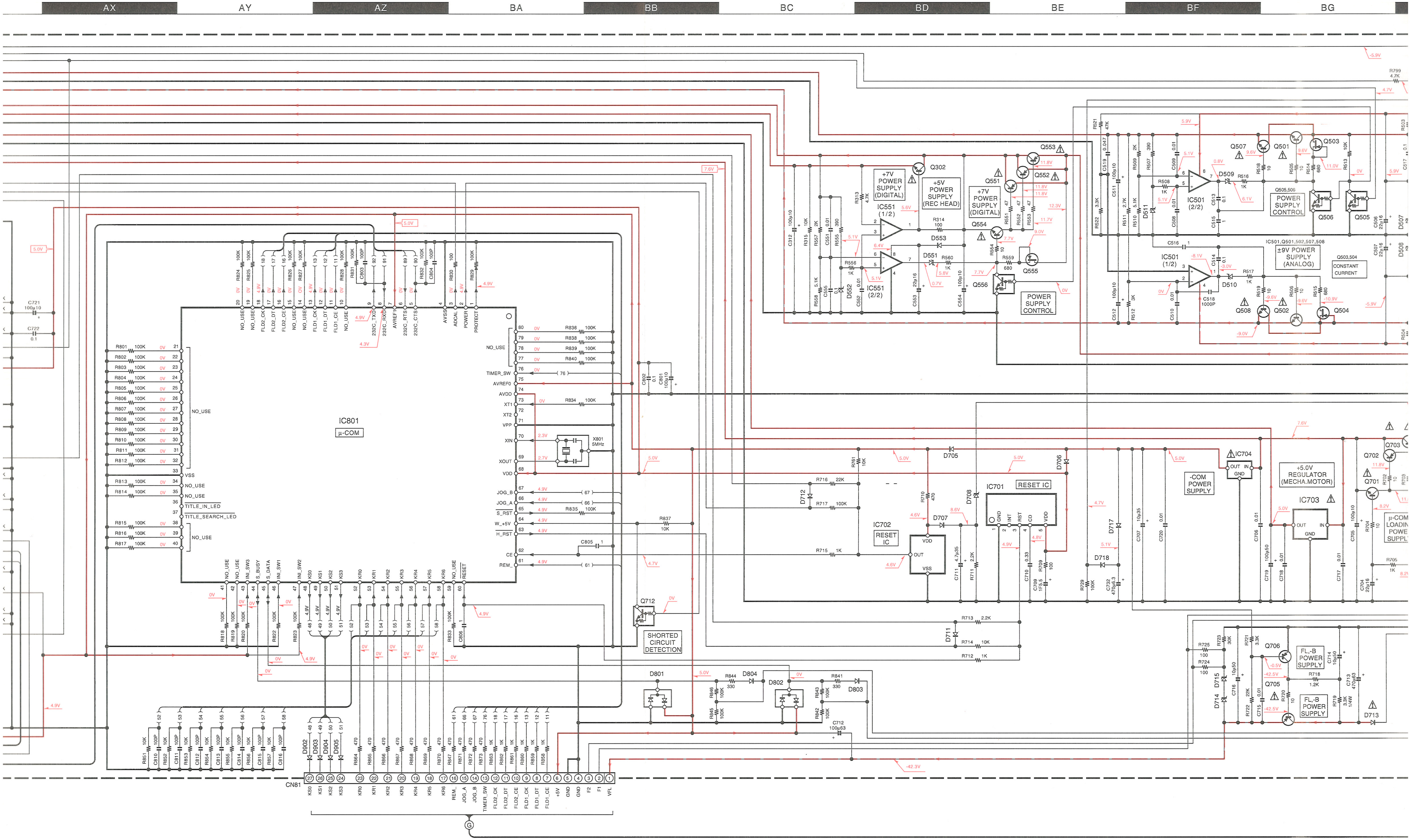
Y22-4390-00

KENWOOD

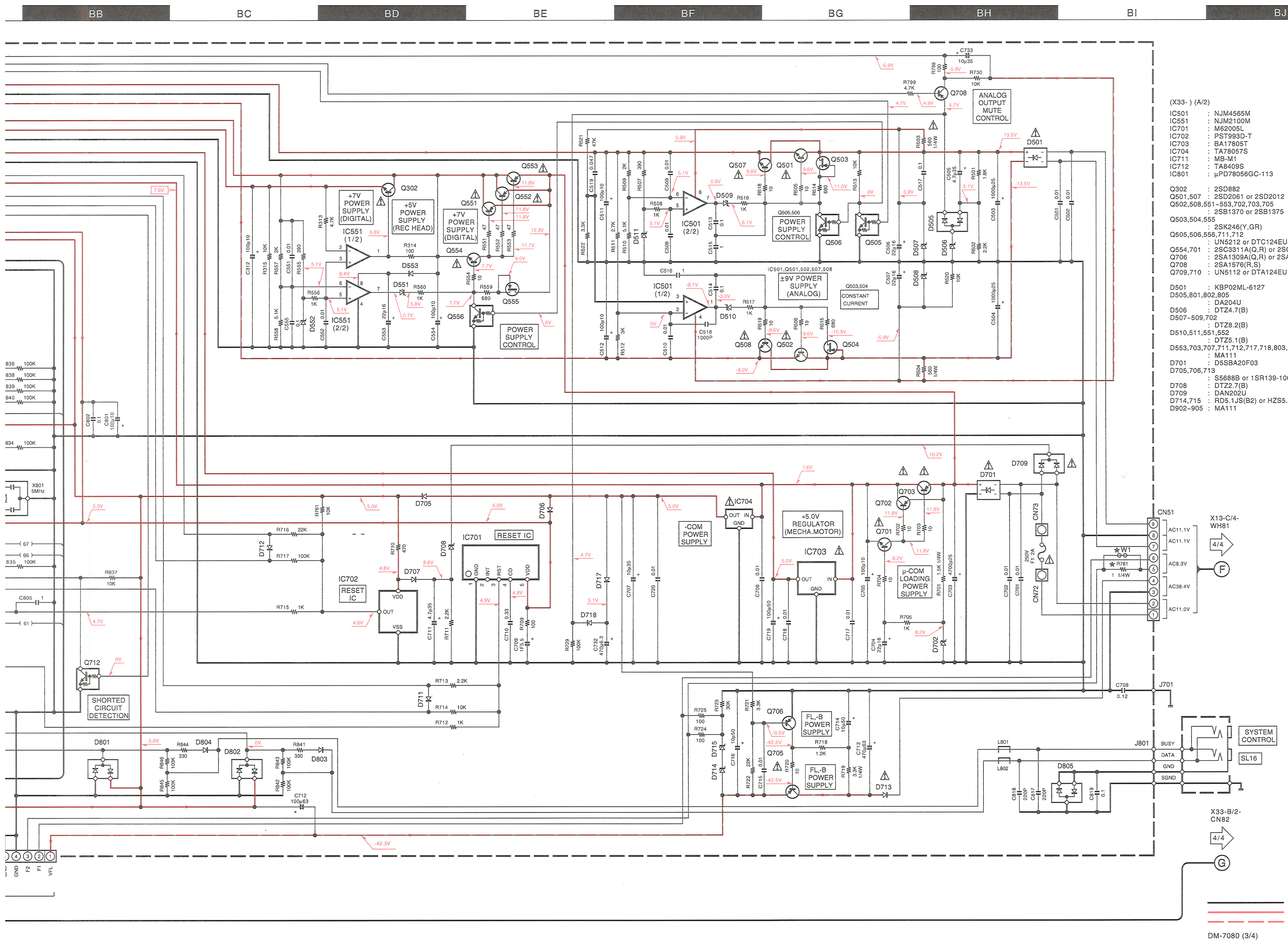

AQ
AR
AS
AT
AU
AV
AW
AX
AY
AZ
(X33-1010-00)(A/2) (2/2)
MUTE
STB
+9V
9VG
-9V
+8V
H+5V
HGND
M+5V
MGND
X33-
A/2-1/2
2/4
E
ADCAL
Q712
+5VA
IC101
IC301
CN7
LOADING PCB
EJECT
PLAY
REC
S1
S2
S3
CN71
OUTSW
INSW
CHK IN
GND
OUT1
OUT2
CN1
L.M.
M
IC712
LOADING MOTOR DRIVER
IN2
VC
OUT2
NC
GND
VS
OUT1
VREF
IN1
Q709–711
LOADING CONTROL
Q709
Q710
Q711
C727
10µ25
C728 0.1
D703
R757 10K
R758 12K
R759 15K
R760 22K
R791 100
R792 100
R793 100
R795 10K
R796 10K
R797 10K
7.6V
7.1V
4.2V
0.4V
0V
4.9V
EMP
DARST
C723 1
R745 100
R746 100
R755 1K
R753 1K
R756 10K
R754 10K
R764 100K
R737 100K
R738 100K
R739 100K
R740 100K
R741 100K
R742 100K
R743 100K
R744 100K
R733 10K
R736 100
R734 10K
R747 100
R748 100
R731 100
R749 100
R750 100
R732 1K
R751 4.7K
R752 100K
R735 10K
R771 100K
R772 100K
R773 100K
R774 100K
R775 100K
R776 100K
IC711
MECHANISM CONTROL
µ-COM
SRDT
SWDT
SCLK
BOSY
ATSY
POWER DOWN
SCL
SBA
LDON
FOK
WRPWR
DIG-RST
DA-RST
SCMD1
SCMD0
MOD
REC/PB
WR/MN
SCTX
XLATCH
DFLATCH
AMUTE
LDOUT
LDIN
CHKIN
INSW
OUTSW
PROTECT
REFLECT
LIMIT-IN
232C. 4
232C. 3
232C. 2
232C. 1
AVSS(AGND)
VREF(+5V)
EMP
STB
+5V
XOUT
XIN
GND
SYSTEM-RST
(CNVSS)GND
REC/OTHER
SHCK
SENS
XINT
X701
8MHz
C721
100µ10
C722
0.1
C726 1
R777 100K
R778 100K
R779 100K
R790 1K
R780 10K
R783 100K
R784 100K
R785 10K
R782 100K
R786 100K
R787 100K
R788 100K
R789 100K
R728 10K
R727 10K
R726 10K
R762 100K
C734 100P
R768 100
R767 100
R766 100
R765 100K
R763 100K
C735 100P
R769 100K
C724 0.1
R770 100K
2.2V
2.7V
5.0V
4.8V
4.6V
4.3V
3.0V
0.5V
4.7V
IC801
µ-COM
R801 100K
R802 100K
R803 100K
R804 100K
R805 100K
R806 100K
R807 100K
R808 100K
R809 100K
R810 100K
R811 100K
R812 100K
R813 100K
R814 100K
R815 100K
R816 100K
R817 100K
NO_USE
VSS
TITLE_IN_LED
TITLE_SEARCH_LED
FLD2_CK
FLD2_DT
FLD2_CE
FLD1_CK
FLD1_DT
FLD1_CE
232C_TXD
232C_RXD
AVREF
232C_RTS
232C_CTS
AVSS
ADCAL
POWER
PROTECT
R824 100K
R825 100K
R826 100K
R827 100K
R828 100K
R831 100K
C803 100P
R832 100K
C804 100P
R830 100
R829 100K
INI_SW3
S_BUSY
S_DATA
INI_SW1
INI_SW2
KS0
KS1
KS2
KS3
KR0
KR1
KR2
KR3
KR4
KR5
KR6
RESET
R818 100K
R819 100K
R820 100K
R822 100K
R823 100K
R833 100K
C806
D902
D903
D904
D905
CN81
REM_
JOG_A
JOG_B
TIMER_SW
FLD2_CK
R851 10K
C810 100P
R852 10K
C811 100P
R853 10K
C812 100P
R854 10K
C813 100P
R855 10K
C814 100P
R856 10K
C815 100P
R857 10K
C816 100P
R864 470
R865 470
R866 470
R867 470
R868 470
R869 470
R870 470
R847 470
R871 470
R872 470
R873 470
R863 1K
G
TIMER_
AVRE
JO
JOG
S_
W_
H_
NO_USE

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

The DC voltage is an actual reading measured with a high impedance type voltm
The measurement value may vary depending on the measuring instruments used (
the product. Refer to the voltage during RECORDABLE MD PLAY unless other
specified; The value shown in (   ) is the voltage measured at the moment of S
The voltage followed by (REC) refers to the value during MD RECORDING.


AX
AY
AZ
BA
BB
BC
BD
BE
BF
BG
IC801
µ-COM
X801 5MHz
CN81
Q712
SHORTED CIRCUIT DETECTION
D801
D802
D803
D804
IC551 (1/2)
IC551 (2/2)
+7V POWER SUPPLY (DIGITAL)
+5V POWER SUPPLY (REC HEAD)
+7V POWER SUPPLY (DIGITAL)
POWER SUPPLY CONTROL
Q302
Q551
Q552
Q553
Q554
Q555
Q556
IC501 (1/2)
IC501 (2/2)
Q501
Q502
Q503
Q504
Q505
Q506
Q507
Q508
Q505,506 POWER SUPPLY CONTROL
IC501,Q501,502,507,508 ±9V POWER SUPPLY (ANALOG)
Q503,504 CONSTANT CURRENT
IC701
RESET IC
IC702
RESET IC
IC703
IC704
-COM POWER SUPPLY
+5.0V REGULATOR (MECHA.MOTOR)
Q701
Q702
Q703
Q705
Q706
FL,-B POWER SUPPLY
FL,-B POWER SUPPLY
µ-COM LOADING POWER SUPPLY
D705
D706
D707
D708
D711
D712
D713
D714
D715
D717
D718
D902
D903
D904
D905
G

The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during RECORDABLE MD PLAY unless otherwise specified; The value shown in ( ) is the voltage measured at the moment of STOP. The voltage followed by (REC) refers to the value during MD RECORDING.


BB
BC
BD
BE
BF
BG
BH
BI
BJ
BK
ANALOG OUTPUT MUTE CONTROL
Q708
D501
+7V POWER SUPPLY (DIGITAL)
+5V POWER SUPPLY (REC HEAD)
+7V POWER SUPPLY (DIGITAL)
Q302
Q551
Q552
Q553
Q554
Q555
Q556
IC551 (1/2)
IC551 (2/2)
D551
D552
D553
POWER SUPPLY CONTROL
Q507
Q501
Q503
Q506
Q505
Q508
Q502
Q504
IC501 (2/2)
IC501 (1/2)
D509
D510
D511
Q505,506 POWER SUPPLY CONTROL
IC501,Q501,502,507,508 ±9V POWER SUPPLY (ANALOG)
Q503,504 CONSTANT CURRENT
D505
D506
D507
D508
X801 5MHz
D705
D706
D708
D712
D707
IC701
RESET IC
IC702 RESET IC
IC704
-COM POWER SUPPLY
+5.0V REGULATOR (MECHA.MOTOR)
IC703
Q701
Q702
Q703
µ-COM LOADING POWER SUPPLY
D701
D709
D702
D717
D718
D711
CN73
CN72
CN51
X13-C/4-WH81
4/4
F
W1
R781
AC11.1V
AC11.1V
AC8.3V
AC38.4V
AC11.0V
Q712
SHORTED CIRCUIT DETECTION
D801
D802
D803
D804
Q706
Q705
FL,-B POWER SUPPLY
FL,-B POWER SUPPLY
D713
D714
D715
J701
J801
BUSY
DATA
GND
SGND
SYSTEM CONTROL
SL16
L801
L802
D805
X33-B/2-CN82
4/4
G
GND
F2
F1
VFL
GND LINE
+B LINE
-B LINE

DM-7080 (3/4)

(X33-) (A/2)

IC501 : NJM4565M
IC551 : NJM2100M
IC701 : M62005L
IC702 : PST993D-T
IC703 : BA17805T
IC704 : TA78057S
IC711 : MB-M1
IC712 : TA8409S
IC801 : µPD78056GC-113

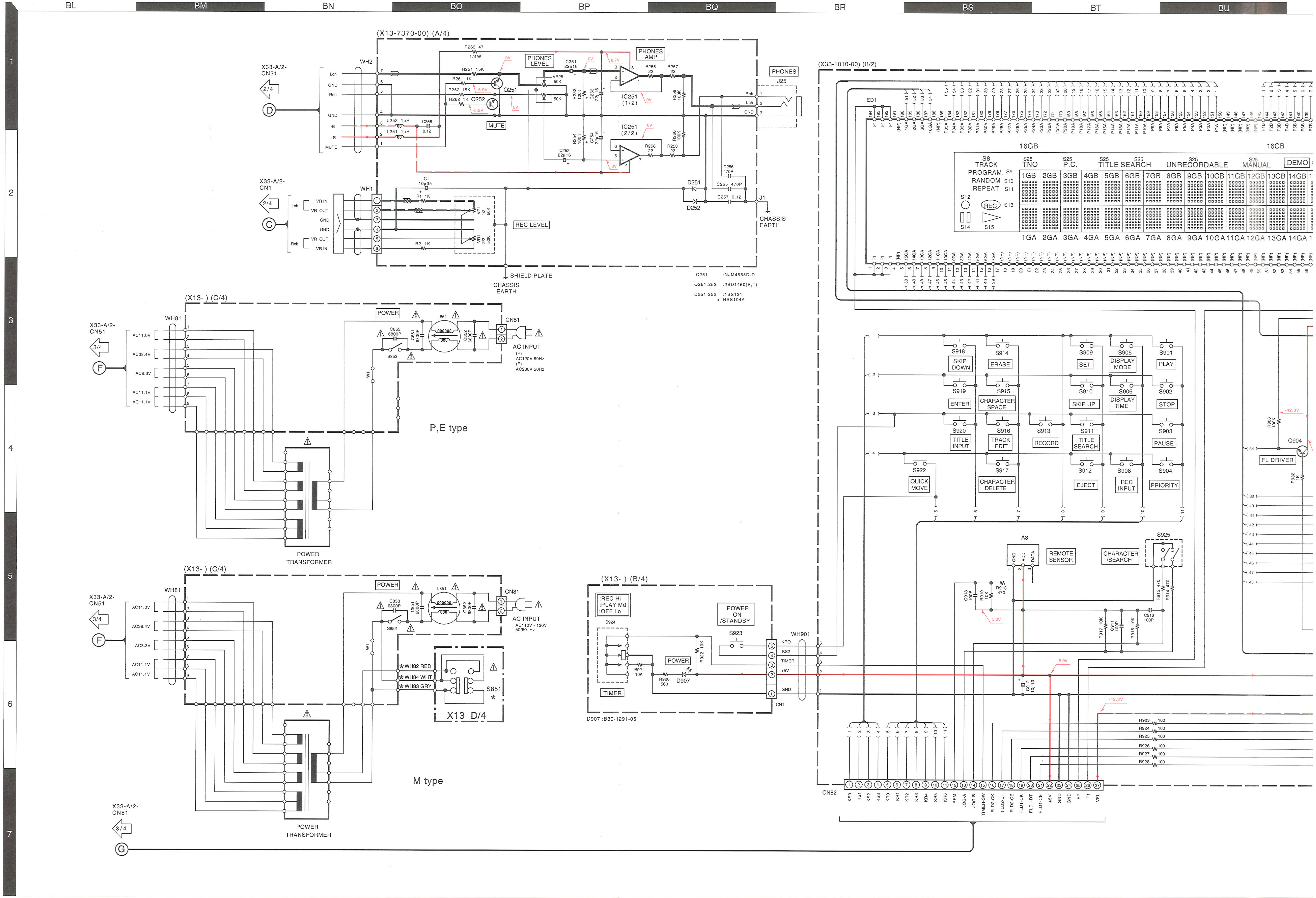
Q302 : 2SD882
Q501,507 : 2SD2061 or 2SD2012
Q502,508,551~553,702,703,705
: 2SB1370 or 2SB1375
Q503,504,555
: 2SK246(Y,GR)
Q505,506,556,711,712
: UN5212 or DTC124EU
Q554,701 : 2SC3311A(Q,R) or 2SC2458(Y,GR)
Q706 : 2SA1309A(Q,R) or 2SA1048(Y,GR)
Q708 : 2SA1576(R,S)
Q709,710 : UN5112 or DTA124EU

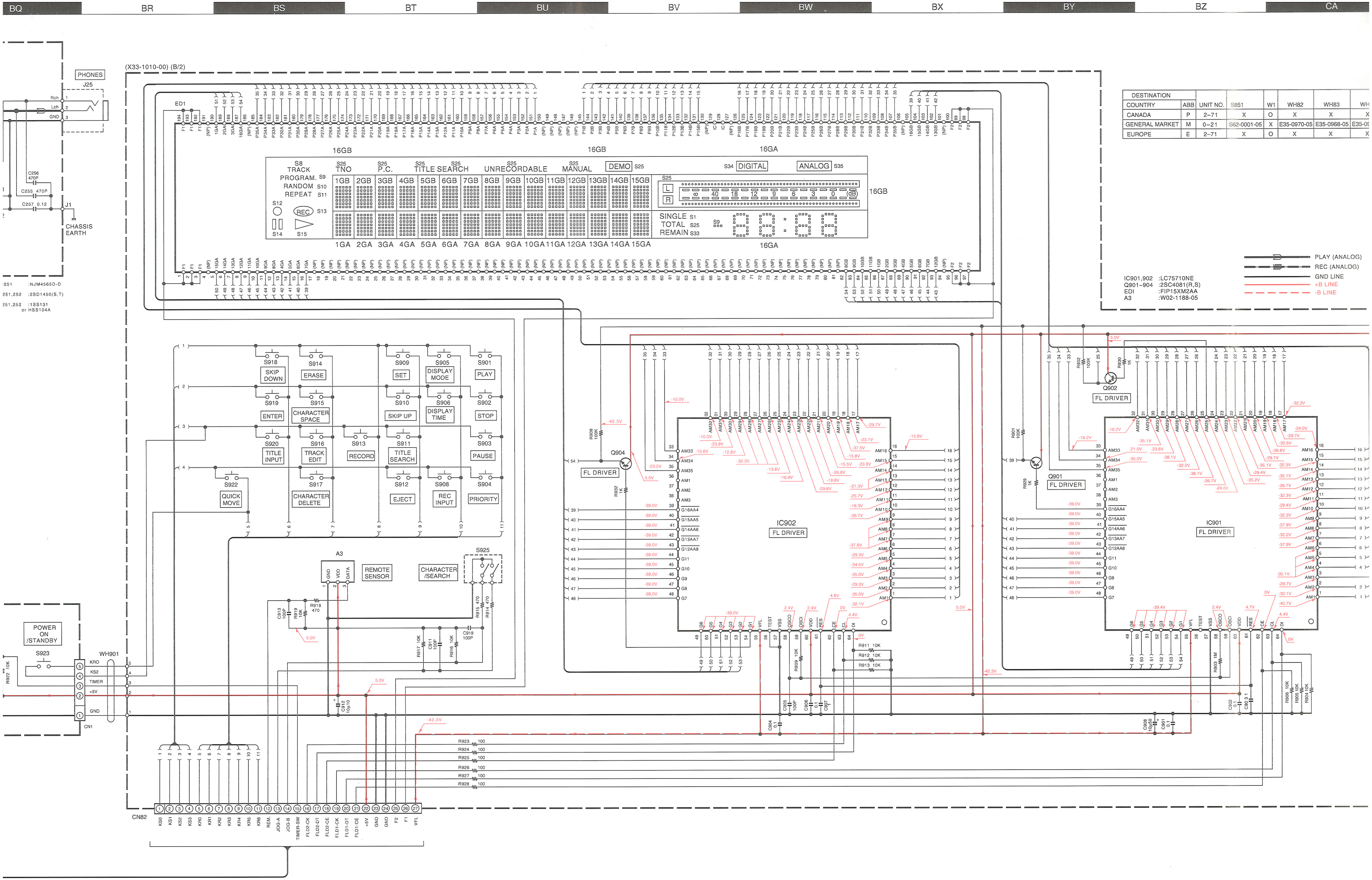
D501 : KBP02ML-6127
D505,801,802,805
: DA204U
D506 : DTZ4.7(B)
D507~509,702
: DTZ8.2(B)
D510,511,551,552
: DTZ5.1(B)
D553,703,707,711,712,717,718,803,804
: MA111
D701 : D5SBA20F03
D705,706,713
: S5688B or 1SR139-100
D708 : DTZ2.7(B)
D709 : DAN202U
D714,715 : RD5.1JS(B2) or HZS5.1S(B2)
D902~905 : MA111

Y22-4390-00

DM-7080

KENWOOD


BL
BM
BN
BO
BP
BQ
BR
BS
BT
BU
1
2
3
4
5
6
7
(X13-7370-00) (A/4)
X33-A/2-CN21
2/4
D
WH2
Lch
GND
Rch
GND
-B
+B
MUTE
R263 47 1/4W
R251 15K
R261 1K
R252 15K
R262 1K
Q251
Q252
MUTE
L252 1μH
L251 1μH
C258 0.12
PHONES LEVEL
VR25 50K
C251 22μ16
R253 100K
C253 22μ16
PHONES AMP
R255 22
R257 22
IC251 (1/2)
IC251 (2/2)
R254 100K
C254 22μ16
C252 22μ16
R256 22
R258 22
R259 100K
R260 100K
PHONES
J25
Rch
Lch
GND
C256 470P
C255 470P
C257 0.12
D251
D252
J1
CHASSIS EARTH
X33-A/2-CN1
C
WH1
VR IN
VR OUT
GND
GND
VR OUT
VR IN
C1 10μ35
R1 1K
R2 1K
VR1 1/2 50K
VR1 2/2 50K
REC LEVEL
SHIELD PLATE
CHASSIS EARTH
IC251 :NJM4565D-D
Q251,252 :2SD1450(S,T)
D251,252 :1SS131 or HSS104A
(X13-) (C/4)
X33-A/2-CN51
3/4
F
WH81
AC11.0V
AC38.4V
AC8.3V
AC11.1V
AC11.1V
POWER
C853 6800P
C851 6800P
L851
C852 6800P
S852
CN81
AC INPUT
(P) AC120V 60Hz
(E) AC230V 50Hz
W1
P,E type
POWER TRANSFORMER
(X13-) (C/4)
X33-A/2-CN51
AC INPUT
AC110V - 120V 50/60 Hz
*WH82 RED
*WH84 WHT
*WH83 GRY
S851
X13 D/4
M type
POWER TRANSFORMER
X33-A/2-CN81
G
(X13-) (B/4)
:REC Hi
:PLAY Md
:OFF Lo
S924
TIMER
R921 10K
R920 560
D907
POWER
R922 10K
POWER ON /STANDBY
S923
KRO
KS2
TIMER
+5V
GND
CN1
WH901
D907 :B30-1291-05
(X33-1010-00) (B/2)
ED1
16GB
S8 TRACK
PROGRAM. S9
RANDOM S10
REPEAT S11
S12
REC
S13
S14
S15
S25 TNO
S25 P.C.
S25 TITLE SEARCH
S25 UNRECORDABLE
S25 MANUAL
DEMO
1GB 2GB 3GB 4GB 5GB 6GB 7GB 8GB 9GB 10GB 11GB 12GB 13GB 14GB
1GA 2GA 3GA 4GA 5GA 6GA 7GA 8GA 9GA 10GA 11GA 12GA 13GA 14GA
S918 SKIP DOWN
S914 ERASE
S909 SET
S905 DISPLAY MODE
S901 PLAY
S919 ENTER
S915 CHARACTER SPACE
S910 SKIP UP
S906 DISPLAY TIME
S902 STOP
S920 TITLE INPUT
S916 TRACK EDIT
S913 RECORD
S911 TITLE SEARCH
S903 PAUSE
S922 QUICK MOVE
S917 CHARACTER DELETE
S912 EJECT
S908 REC INPUT
S904 PRIORITY
Q904
FL DRIVER
R908 100K
R932 1K
-42.3V
A3
GND VDD DATA
REMOTE SENSOR
CHARACTER /SEARCH
S925
C913 100P
R919 10K
R918 470
R915 470
R914 470
R917 10K
C911 100P
R916 10K
C910 100P
C912 10μ10
5.0V
-42.3V
R923 100
R924 100
R925 100
R926 100
R927 100
R928 100
CN82
KS0 KS1 KS2 KS3 KR0 KR1 KR2 KR3 KR4 KR5 KR6 REM JOG-A JOG-B TIMER-SW FLD2-CK FLD2-DT FLD2-CE FLD1-CK FLD1-DT FLD1-CE +5V GND GND F2 F1 VFL

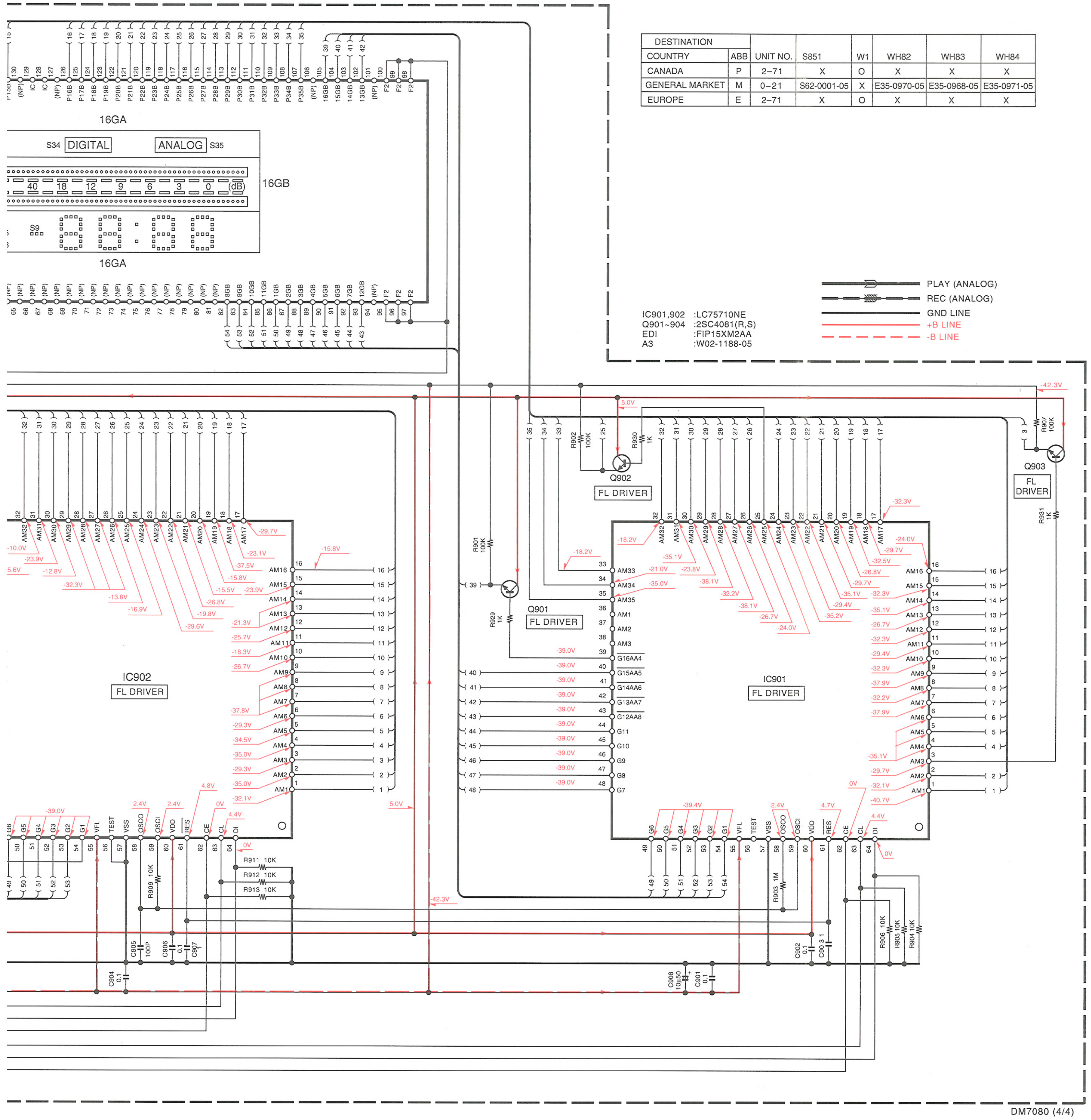

BQ
BR
BS
BT
BU
BV
BW
BX
BY
BZ
CA
(X33-1010-00) (B/2)
PHONES
J25
Rch
Lch
GND
C256 470P
C255 470P
C257 0.12
J1
CHASSIS EARTH
ED1
16GB
16GA
TRACK
PROGRAM.
RANDOM
REPEAT
TNO
P.C.
TITLE SEARCH
UNRECORDABLE
MANUAL
DEMO
DIGITAL
ANALOG
REC
SINGLE
TOTAL
REMAIN
dB
S918 SKIP DOWN
S914 ERASE
S909 SET
S905 DISPLAY MODE
S901 PLAY
S919 ENTER
S915 CHARACTER SPACE
S910 SKIP UP
S906 DISPLAY TIME
S902 STOP
S920 TITLE INPUT
S916 TRACK EDIT
S913 RECORD
S911 TITLE SEARCH
S903 PAUSE
S922 QUICK MOVE
S917 CHARACTER DELETE
S912 EJECT
S908 REC INPUT
S904 PRIORITY
A3
GND
VDD
DATA
REMOTE SENSOR
CHARACTER /SEARCH
S925
R918 470
R919 10K
C913 100P
R915 470
R914 470
R917 10K
C911 100P
R916 10K
C919 100P
C912 10/10
POWER ON /STANDBY
S923
R922 10K
WH901
KRO
KS2
TIMER
+5V
GND
CN1
CN82
KS0
KS1
KS2
KS3
KR0
KR1
KR2
KR3
KR4
KR5
KR6
REM.
JOG-A
JOG-B
TIMER-SW
FLD2-CK
FLD2-DT
FLD2-CE
FLD1-CK
FLD1-DT
FLD1-CE
+5V
GND
GND
F2
F1
VFL
R923 100
R924 100
R925 100
R926 100
R927 100
R928 100
Q904
FL DRIVER
R908 100K
R932 1K
IC902
FL DRIVER
Q902
FL DRIVER
R902 100K
R930 1K
Q901
FL DRIVER
R901 100K
R929 1K
IC901
FL DRIVER
R911 10K
R912 10K
R913 10K
R909 10K
C905 100P
C906 0.1
C907
C904 0.1
R903 1M
C902 0.1
C903 0.1
C908 10/50
C901 0.1
R906 10K
R905 10K
R904 10K
AM33
AM34
AM35
AM1
AM2
AM3
G16AA4
G15AA5
G14AA6
G13AA7
G12AA8
G11
G10
G9
G8
G7
G6
G5
G4
G3
G2
G1
VFL
TEST
VSS
OSCO
OSCI
VDD
RES
CE
CL
DI
5.0V
-42.3V
-39.0V
2.4V
4.8V
4.4V
0V

DESTINATION		UNIT NO.	S851	W1	WH82	WH83	WH
COUNTRY	ABB						
CANADA	P	2–71	X	O	X	X	X
GENERAL MARKET	M	0–21	S62-0001-05	X	E35-0970-05	E35-0968-05	E35-09
EUROPE	E	2–71	X	O	X	X	X

PLAY (ANALOG)
REC (ANALOG)
GND LINE
+B LINE
-B LINE

IC901,902 :LC75710NE
Q901~904 :2SC4081(R,S)
EDI :FIP15XM2AA
A3 :W02-1188-05

251 :NJM4565D-D
251,252 :2SD1450(S,T)
251,252 :1SS131
or HSS104A


16GA
S34 DIGITAL
ANALOG S35
16GB
40 18 12 9 6 3 0 (dB)
S9
16GA
IC902
FL DRIVER
IC901
FL DRIVER
Q901
FL DRIVER
Q902
FL DRIVER
Q903
FL DRIVER
R901 100K
R902 100K
R907 100K
R929 1K
R930 1K
R931 1K
R903 1M
R904 10K
R905 10K
R906 10K
R908 10K
R911 10K
R912 10K
R913 10K
C901 0.1
C902 0.1
C903 0.1
C904 0.1
C905 100P
C906 0.1
C907
C908 10/50
AM1 AM2 AM3 AM4 AM5 AM6 AM7 AM8 AM9 AM10 AM11 AM12 AM13 AM14 AM15 AM16 AM17 AM18 AM19 AM20 AM21 AM22 AM23 AM24 AM25 AM26 AM27 AM28 AM29 AM30 AM31 AM32 AM33 AM34 AM35
G16AA4 G15AA5 G14AA6 G13AA7 G12AA8 G11 G10 G9 G8 G7
G6 G5 G4 G3 G2 G1 VFL TEST VSS OSCO OSCI VDD RES CE CL DI
5.0V
-42.3V
4.8V
2.4V
4.7V
4.4V
0V

DESTINATION							
COUNTRY	ABB	UNIT NO.	S851	W1	WH82	WH83	WH84
CANADA	P	2–71	X	O	X	X	X
GENERAL MARKET	M	0–21	S62-0001-05	X	E35-0970-05	E35-0968-05	E35-0971-05
EUROPE	E	2–71	X	O	X	X	X

PLAY (ANALOG)
REC (ANALOG)
GND LINE
+B LINE
-B LINE

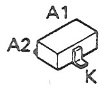
IC901,902 :LC75710NE
Q901~904 :2SC4081(R,S)
EDI :FIP15XM2AA
A3 :W02-1188-05

DM7080 (4/4)

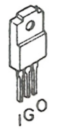
CAUTION: *For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ indicates safety critical components. For continued protection against risk of fire, replace only with same type and rating fuse(s). To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.*

The DC voltage is an actual reading measured with a high impedance type voltmeter. The measurement value may vary depending on the measuring instruments used or on the product. Refer to the voltage during RECORDABLE MD PLAY unless otherwise specified; The value shown in ( ) is the voltage measured at the moment of STOP. The voltage followed by (REC) refers to the value during MD RECORDING.

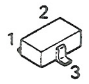
DAN202U



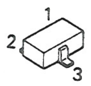
BA17805T



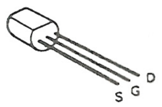
DA204U



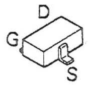
UN5212



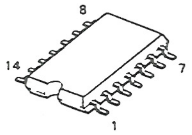
2SK246



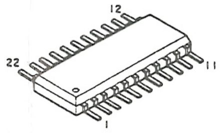
2SK302



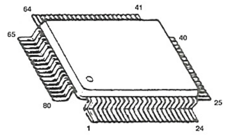
TC74HCU04AF
TC74HC00AF
TC74HC107AF



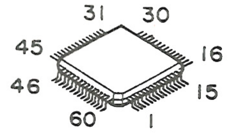
SM5841CS



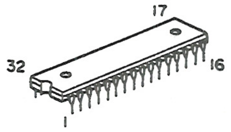
TC7SU04F


64
41
65
40
80
25
1
24

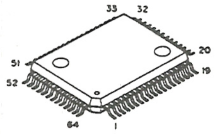
KAN02


31
30
45
16
46
15
60
1

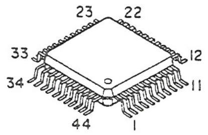
TDA1547



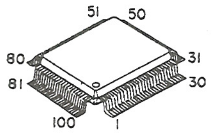
LC75710NE


33
32
51
20
52
19
64
1

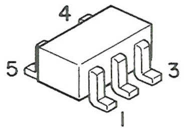
SAA7350GP/M3


23
22
33
12
34
11
44
1

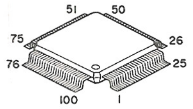
MB-M1


51
50
80
31
81
30
100
1

TC7SU04FU-TE85L



CXD2536R

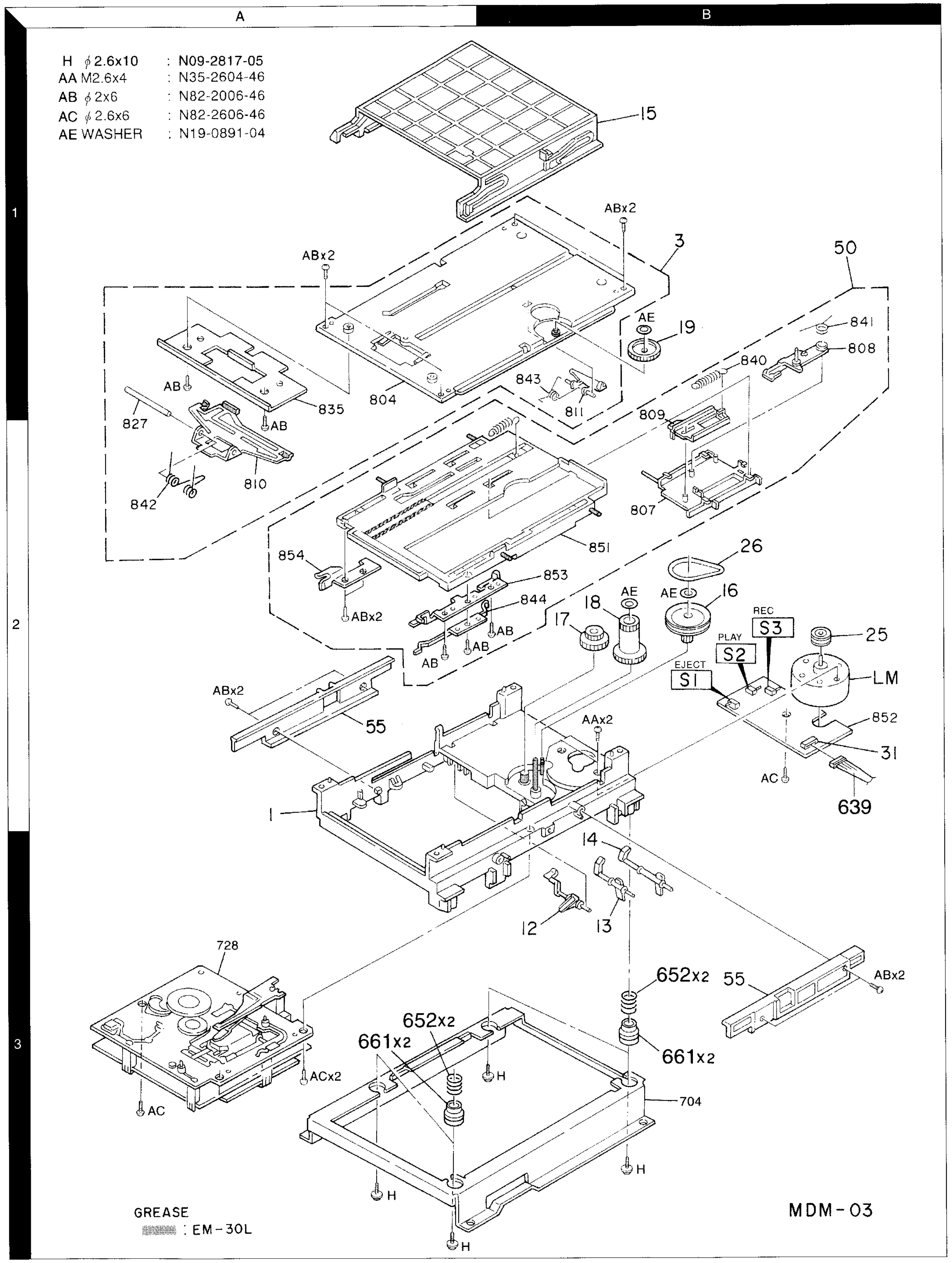

51
50
75
26
76
25
100
1

Y22-4390-00

DM-7080

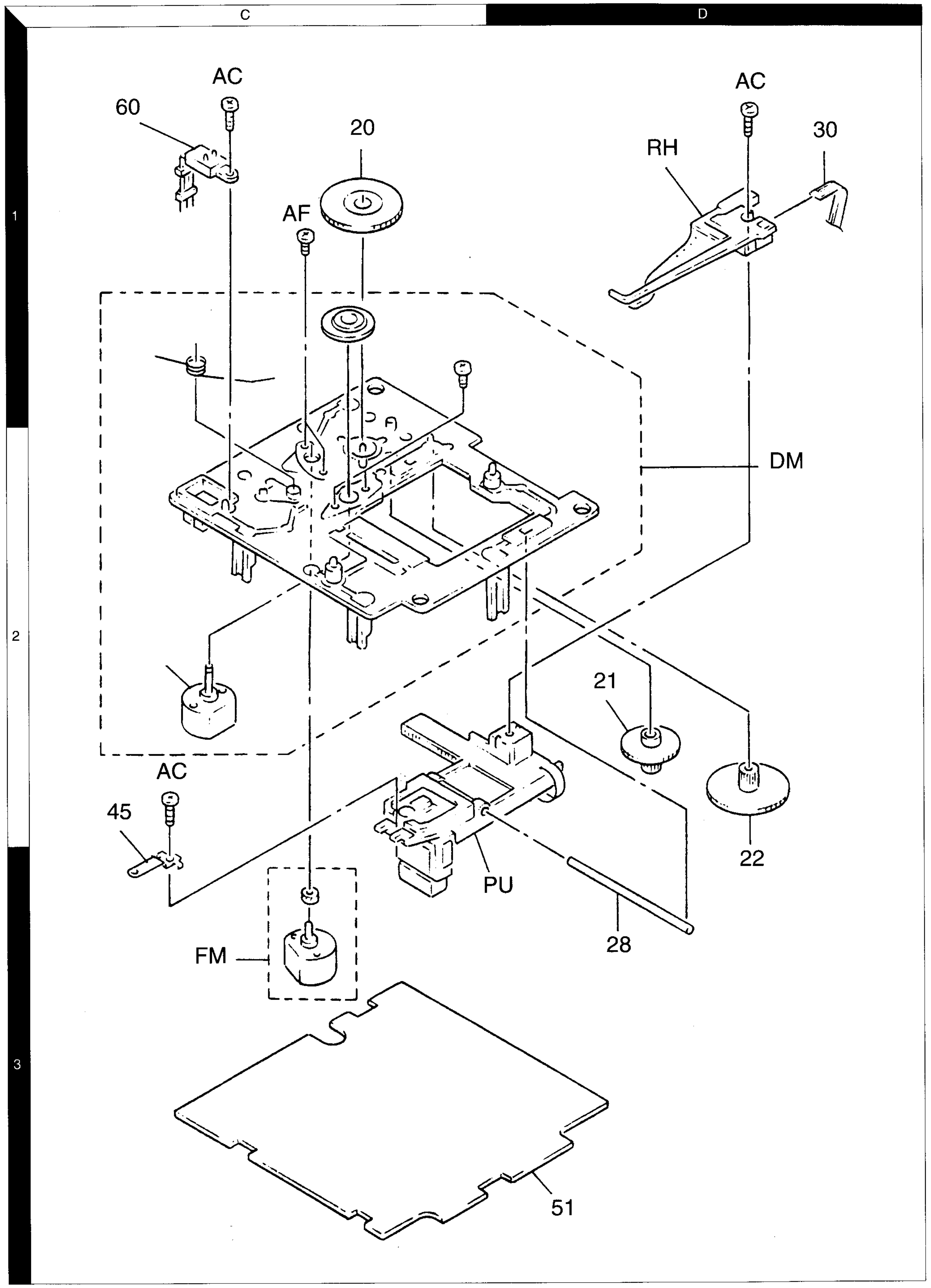
KENWOOD

EXPLODED VIEW (MECHANISM)


A
B
1
2
3
H ϕ2.6x10 : N09-2817-05
AA M2.6x4 : N35-2604-46
AB ϕ2x6 : N82-2006-46
AC ϕ2.6x6 : N82-2606-46
AE WASHER : N19-0891-04
15
ABx2
ABx2
3
50
AE
19
841
808
840
804
835
AB
AB
827
843
811
809
810
842
807
854
851
26
853
AE
AE
16
844
18
REC
S3
ABx2
17
AB
AB
AB
PLAY
S2
25
EJECT
S1
LM
ABx2
55
AAx2
852
31
AC
639
1
14
12
13
728
652x2
55
ABx2
652x2
661x2
661x2
ACx2
H
704
AC
H
H
GREASE
: EM-30L
MDM-03
H

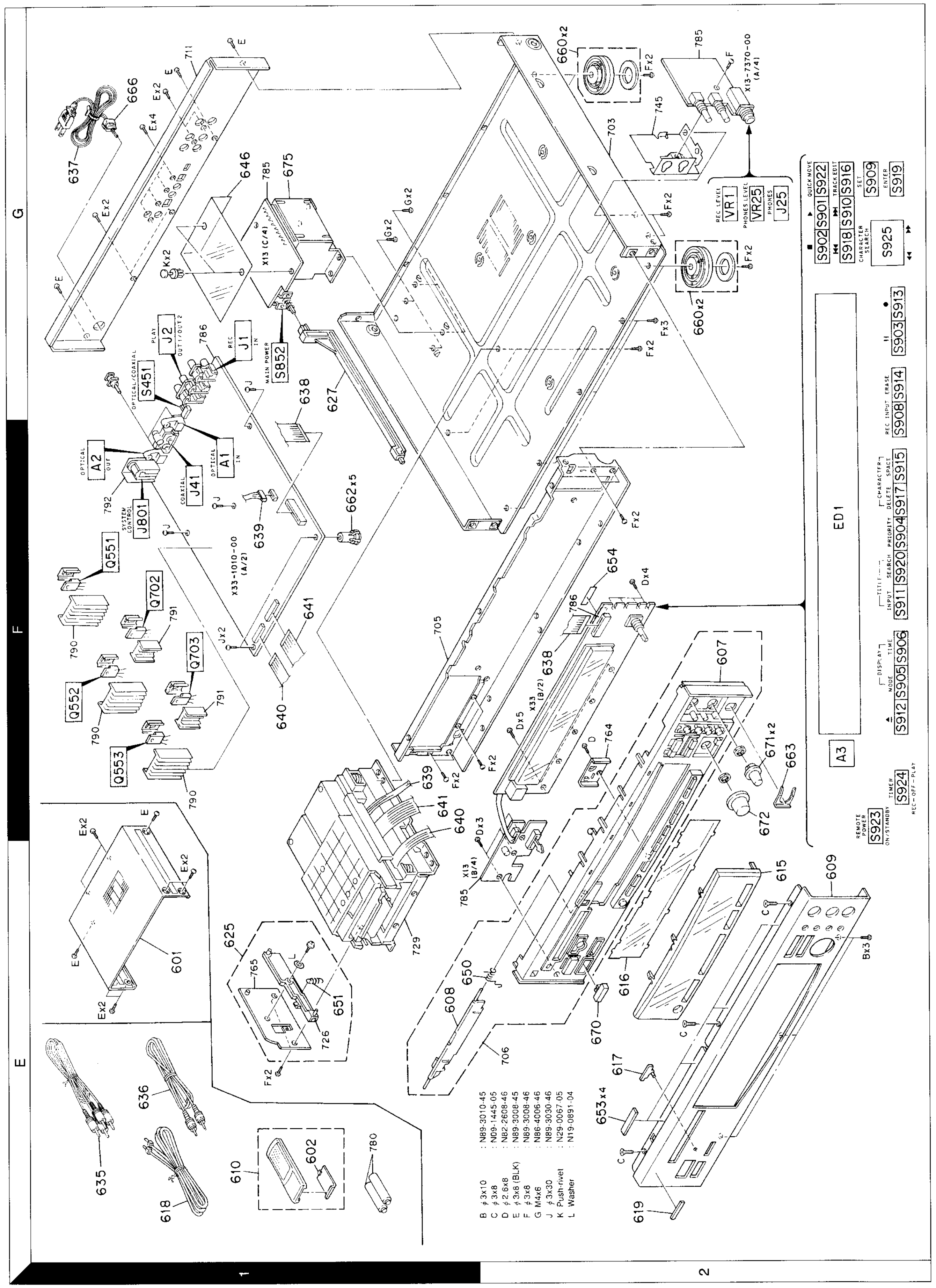
Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (MECHANISM)


C
D
1
2
3
AC
60
20
RH
AC
30
AF
DM
21
22
AC
45
PU
FM
28
51

Parts with the exploded numbers larger than 700 are not supplied.

EXPLODED VIEW (UNIT)


G
F
E
1
2
711
E
Ex2
Ex4
666
637
646
785
675
Kx2
X13 (C/4)
Gx2
OPTICAL/COAXIAL
PLAY
OUT1/OUT2
REC IN
MAIN POWER
S451
J2
J1
S852
786
638
627
OPTICAL OUT
A2
J41
COAXIAL
OPTICAL IN
A1
SYSTEM CONTROL
J801
792
639
662x5
X33-1010-00 (A/2)
Q551
Q702
791
790
Q703
Q552
Q553
640
641
705
654
Dx4
786
638
X33 (B/2)
Dx5
660x2
785
X13-7370-00 (A/4)
745
703
Fx2
Fx3
660x2
REC LEVEL
VR1
PHONES LEVEL
VR25
PHONES
J25
QUICK MOVE
TRACK EDIT
S902
S901
S922
S918
S910
S916
SET
S909
ENTER
S919
CHARACTER SEARCH
S925
S903
S913
REC INPUT
ERASE
S908
S914
CHARACTER
SPACE
DELETE
S917
S915
TITLE
INPUT
SEARCH
PRIORITY
S911
S920
S904
DISPLAY
TIME
S912
S905
S906
ED1
A3
TIMER
REC-OFF-PLAY
S924
REMOTE POWER
ON/STANDBY
S923
607
671x2
663
672
764
639
641
640
Dx3
785
X13 (B/4)
729
615
609
Bx3
601
Ex2
625
765
651
726
650
608
706
670
616
617
653x4
619
C
635
636
618
610
602
780
B φ3x10 : N89-3010-45
C φ3x8 : N09-1445-05
D φ2.6x8 : N82-2608-46
E φ3x8 (BLK) : N89-3008-45
F φ3x8 : N89-3008-46
G M4x6 : N86-4006-46
J φ3x30 : N89-3030-46
K Push-rivet : N29-0067-05
L Washer : N19-0891-04

Parts with the exploded numbers larger than 700 are not supplied.

DM-7080

PARTS LIST

∗ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

❶

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
				DM-7080		
601	1E	∗	A01-3277-01	METALLIC CABINET(GOLD)		
602	1E		A09-0188-08	BATTERY COVER		
607	2F	∗	A22-1712-11	SUB PANEL		
608	2E	∗	A29-0811-14	PANEL		
609	2E	∗	A60-0817-02	PANEL	ME	
609	2E	∗	A60-0859-02	PANEL	P	
610	1E		A70-1031-05	REMOCON ASSY(RC-DMF70)		
615	2E	∗	B10-2176-13	FRONT GLASS		
616	2E	∗	B11-0298-03	COLOR FILTER		
617	2E		B12-0264-04	INDICATOR		
618	1E		B19-1529-05	OPTICAL FIBER		
619	2E	∗	B43-0302-04	KENWOOD BADGE		
-			B46-0121-33	WARRANTY CARD	P	
-			B46-0310-03	WARRANTY CARD	E	
-		∗	B58-0966-13	CAUTION CARD	ME	
-		∗	B58-0967-03	CAUTION CARD	P	
-		∗	B60-2416-00	INSTRUCTION MANUAL(ENGLISH)	PM	
-		∗	B60-2417-00	INSTRUCTION MANUAL(FRENCH)	PE	
-		∗	B60-2418-00	INSTRUCTION MANUAL(GER,DUT)	E	
-		∗	B60-2419-00	INSTRUCTION MANUAL(ITA,SPA)	E	
-		∗	B60-2420-00	INSTRUCTION MANUAL(TAIWAN)	M	
-		∗	B60-2474-00	INSTRUCTION MANUAL(CHINESE)	M	
625	1E	∗	D10-3612-04	ARM ASSY		
627	1G	∗	D21-1820-13	EXTENSION SHAFT		
⚠ 634	1E		E03-0115-05	AC PLUG ADAPTER	M	
635	1E		E30-0505-05	AUDIO CORD		
636	1E		E30-2733-05	CORD WITH PLUG		
⚠ 637	1G		E30-2592-15	AC POWER CORD	ME	
⚠ 637	1G		E30-2650-05	AC POWER CORD	P	
638	1G,2F		E35-0010-05	FLAT CABLE(27P,X33 CN81-CN82)		
639	1F		E35-0751-15	WIRING HARNESS(6P)		
640	1F	∗	E35-1250-05	FLAT CABLE(18P,X33 CN31-MBU-2)		
646		∗	F20-1465-04	INSULATING BOARD		
650		∗	G01-3845-04	TORSION COIL SPRING		
651		∗	G01-3846-04	EXTENSION SPRING		
652		∗	G01-3859-04	COMPRESSION SPRING		
653			G11-0155-14	SOFT TAPE (40X9X2)		
654		∗	G11-2247-04	CUSHION (40X5X3)		
-		∗	H10-7111-12	POLYSTYRENE FOAMED FIXTURE(L)		
-		∗	H10-7112-02	POLYSTYRENE FOAMED FIXTURE(R)		
-			H20-0568-04	PROTECTION COVER	M	
-			H25-0232-04	PROTECTION BAG (235X350X0.03)		
-			H25-0368-04	PROTECTION BAG (SET)	PE	
-		∗	H50-1694-04	ITEM CARTON CASE		
660	2G	∗	J02-1149-05	FOOT		
661	3A,3B		J02-1150-04	INSULATOR (SI 60∘)		
662	1F		J19-3703-14	UNIT HOLDER		
663	2F		J21-3326-05	JACK MOUNTING HARDWARE		
⚠ 666	1G		J42-0083-05	POWER CORD BUSHING		
-			J61-0307-05	WIRE BAND		

L : Scandinavia	**K** : USA	**P** : Canada	**R** : Mexico
Y : PX(Far East, Hawaii)	**T** : Europe	**E** : Europe	**G** : Germany
Y : AAFES(Europe)	**X** : Australia	**M** : Other Areas	

⚠ indicates safety critical components.

∗ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

❷

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
670	2E		K27-2005-04	KNOB (MAIN POWER)		
671	2F		K29-4332-04	KNOB (REC LEVER/PHONES LEVEL)		
672	2F	∗	K29-6264-04	KNOB (CHARACTER/SEARCH)		
⚠ 675	1G	∗	L07-2050-05	POWER TRANSFORMER	P	
⚠ 675	1G	∗	L07-2095-05	POWER TRANSFORMER	M	
⚠ 675	1G	∗	L07-2096-05	POWER TRANSFORMER	E	
				SUB-CIRCUIT UNIT (X13-737X-XX)		
D907			B30-1291-05	LED (POWER)		
C1			CE04KW1V100M	ELECTRO 10UF 35WV		
C251-254			CE04KW1C220M	ELECTRO 22UF 16WV		
C255,256			CK45FB1H471K	CERAMIC 470PF K		
C257,258			CF92FV1H124J	MF-C 0.12UF J		
⚠ C851-853			C91-1488-05	MF 6800PF 250VAC		
CN1			E40-4295-05	FLAT CABLE CONNECTOR (5P)		
CN81			E40-4632-05	PIN ASSY (2P)		
J25			E11-0127-05	PHONE JACK (3P)(PHONES)		
L251,252			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
⚠ L851			L79-0733-05	LINE FILTER		
R263			RD14NB2E470J	RD 47 J 1/4W		
VR1			R10-4049-05	POTENTIOMETER(50K,PHONES LEVEL		
VR25			R10-4049-05	POTENTIOMETER(50K,PHONES LEVEL		
⚠ S851			S62-0001-05	SLIDE SWITCH	M	
⚠ S852			S40-1153-05	PUSH SWITCH (MAIN POWER)		
S923			S70-0031-05	TACT SWITCH (REMOTE POWER)		
S924			S31-1036-05	SLIDE SWITCH (TIMER)		
D251,252			HSS104A	DIODE		
D251,252			1SS131	DIODE		
IC251			NJM4565D-D	IC(OP AMP X2)		
Q251,252			2SD1450(S,T)	TRANSISTOR		
				MD UNIT (X33-101X-XX)		
D102			B30-1291-05	LED		
C1 ,2			CC73FSL1H101J	CHIP C 100PF J		
C3 -6			CE04KW1C220M	ELECTRO 22UF 16WV		
C7 ,8			CC73FSL1H331J	CHIP C 330PF J		
C9 ,10			CE04KW1C220M	ELECTRO 22UF 16WV		
C11 ,12			CC73FSL1H121J	CHIP C 120PF J		
C13 ,14			CQ93FMG1H332J	MYLAR 3300PF J		
C15 ,16			CE04KW1A101M	ELECTRO 100UF 10WV		
C17 ,18			CQ93FMG1H103J	MYLAR 0.010UF J		
C19			CE04KW1A101M	ELECTRO 100UF 10WV		
C20			CE04KW1C220M	ELECTRO 22UF 16WV		
C21			CK73FB1E104K	CHIP C 0.10UF K		
C23 -32			CF92FV1H101K	MF-C 100PF K		
C51			CC73FSL1H220J	CHIP C 22PF J		
C52			CE04KW1A101M	ELECTRO 100UF 10WV		
C53 ,54			CK73FB1E104K	CHIP C 0.10UF K		
C55			CE04KW1A101M	ELECTRO 100UF 10WV		
C56			CE04KW1C220M	ELECTRO 22UF 16WV		
C57			CE04KW1A101M	ELECTRO 100UF 10WV		
C58			CE04KW1C220M	ELECTRO 22UF 16WV		
C59			CK73FB1H103K	CHIP C 0.010UF K		

L : Scandinavia	**K** : USA	**P** : Canada	**R** : Mexico
Y : PX(Far East, Hawaii)	**T** : Europe	**E** : Europe	**G** : Germany
Y : AAFES(Europe)	**X** : Australia	**M** : Other Areas	

⚠ indicates safety critical components.

PARTS LIST

∗ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

❸

Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C60 -63			CC73FSL1H220J	CHIP C 22PF J		
C64			CC73FSL1H102J	CHIP C 1000PF J		
C65			CF92FV1H102J	MF-C 1000PF J		
C66			CC73FSL1H100J	CHIP C 10PF J		
C101			CE04KW1A101M	ELECTRO 100UF 10WV		
C102			CK73FB1E104K	CHIP C 0.10UF K		
C103			CK73FB1H102K	CHIP C 1000PF K		
C104			CC73FCH1H820J	CHIP C 82PF J		
C106			CC73FCH1H330J	CHIP C 33PF J		
C107			CK73FB1H102K	CHIP C 1000PF K		
C108			CC73FCH1H820J	CHIP C 82PF J		
C109			CC73FCH1H101J	CHIP C 100PF J		
C110			CK73FB1E104K	CHIP C 0.10UF K		
C111			CE04KW1A101M	ELECTRO 100UF 10WV		
C112			CE04KW1C220M	ELECTRO 22UF 16WV		
C113			CE04KW1A101M	ELECTRO 100UF 10WV		
C120			CE04KW1A101M	ELECTRO 100UF 10WV		
C121			CK73FB1E104K	CHIP C 0.10UF K		
C122			CK73FF1H103Z	CHIP C 0.010UF Z		
C130			CE04KW1A221M	ELECTRO 220UF 10WV		
C131			CK73FB1E104K	CHIP C 0.10UF K		
C133-136			CC73FSL1H181J	CHIP C 180PF J		
C137,138			CK73FB1H821K	CHIP C 820PF K		
C139,140			CK73FB1E104K	CHIP C 0.10UF K		
C141,142			CE04KW1A221M	ELECTRO 220UF 10WV		
C143-150			CK73FB1E104K	CHIP C 0.10UF K		
C151,152			CE04KW1C220M	ELECTRO 22UF 16WV		
C153,154			CE04KW1A101M	ELECTRO 100UF 10WV		
C155-157			CK73FB1H103K	CHIP C 0.010UF K		
C158,159			CQ93FMG1H102J	MYLAR 1000PF J		
C160			CF92FV1H124J	MF-C 0.12UF J		
C161			CE04KW1C470M	ELECTRO 47UF 16WV		
C201,202			CQ93FMG1H102J	MYLAR 1000PF J		
C203,204			CF92FV1H101K	MF-C 100PF K		
C205,206			CQ93FMG1H102J	MYLAR 1000PF J		
C207-210			CC73FSL1H101J	CHIP C 100PF J		
C211,212			CQ93FMG1H822J	MYLAR 8200PF J		
C213,214			CQ93FMG1H681J	MYLAR 680PF J		
C215,216			CE04KW1C101M	ELECTRO 100UF 16WV		
C219,220			CE04KW1C220M	ELECTRO 22UF 16WV	P	
C219,220			C90-3613-05	ELECTRO 10UF 50WV	ME	
C221-224			CQ93FMG1H471J	MYLAR 470PF J		
C301-303			CC73FSL1H220J	CHIP C 22PF J		
C304			CK73FB1H102K	CHIP C 1000PF K		
C305			CK73FB1E104K	CHIP C 0.10UF K		
C306			CE04KW1A101M	ELECTRO 100UF 10WV		
C307			CK73FB1E104K	CHIP C 0.10UF K		
C308			CE04KW1V100M	ELECTRO 10UF 35WV		
C309			CE04KW1C220M	ELECTRO 22UF 16WV		
C310			CE04KW1A101M	ELECTRO 100UF 10WV		
C312			CE04KW1A101M	ELECTRO 100UF 10WV		
C313			CC73FSL1H330J	CHIP C 33PF J		
C314			CC73FSL1H220J	CHIP C 22PF J		
C315			CC73FSL1H102J	CHIP C 1000PF J		
C316			CK73FB1H103K	CHIP C 0.010UF K		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C401,402			CE04KW1C220M	ELECTRO 22UF 16WV		
C403,404			CE04KW1A101M	ELECTRO 100UF 10WV		
C405,406			CK73FB1E104K	CHIP C 0.10UF K		
C407			CC73FCH1H101J	CHIP C 100PF J		
C408			CC73FCH1H070D	CHIP C 7.0PF D		
C409			CC73FCH1H120J	CHIP C 12PF J		
C410,411			CC73FCH1H050C	CHIP C 5.0PF C		
C412			CK73FB1H102K	CHIP C 1000PF K		
C452			CK73FB1H103K	CHIP C 0.010UF K		
C454			CQ93FMG1H103J	MYLAR 0.010UF J		
C455			CE04KW1A470M	ELECTRO 47UF 10WV		
C456			CK73FB1H103K	CHIP C 0.010UF K		
C457			CK73EB1H104K	CHIP C 0.10UF K		
C459-461			CC73FSL1H220J	CHIP C 22PF J		
C462			CE04KW1A470M	ELECTRO 47UF 10WV		
C463			CK73FB1H103K	CHIP C 0.010UF K		
C464			CK73FF1C224Z	CHIP C 0.22UF Z		
C465			CK73FB1E104K	CHIP C 0.10UF K		
C466			CC73FSL1H220J	CHIP C 22PF J		
C501,502			CK73FB1H103K	CHIP C 0.010UF K		
C503,504			CE04KW1E102M	ELECTRO 1000UF 25WV		
C505			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C506,507			CE04KW1C220M	ELECTRO 22UF 16WV		
C508-510			CK73FB1H103K	CHIP C 0.010UF K		
C511,512			CE04KW1A101M	ELECTRO 100UF 10WV		
C513,514			CK73FB1E104K	CHIP C 0.10UF K		
C515,516			CK73EF1C105Z	CHIP C 1.0UF Z		
C517			CK73FB1E104K	CHIP C 0.10UF K		
C518			CK73FB1H102K	CHIP C 1000PF K		
C519			CK73FF1H473Z	CHIP C 0.047UF Z		
C551,552			CK73FB1H103K	CHIP C 0.010UF K		
C553			CE04KW1C220M	ELECTRO 22UF 16WV		
C554			CE04KW1A101M	ELECTRO 100UF 10WV		
C555			CK73FB1E104K	CHIP C 0.10UF K		
C601			CK73FB1H103K	CHIP C 0.010UF K		
C602,603			CK73FB1H102K	CHIP C 1000PF K		
C701,702			CK73FB1H103K	CHIP C 0.010UF K		
C703			CE04KW1E472M	ELECTRO 4700UF 25WV		
C704			CE04KW1C220M	ELECTRO 22UF 16WV		
C705			CE04KW1A101M	ELECTRO 100UF 10WV		
C706			CQ93FMG1H103J	MYLAR 0.010UF J		
C707			CE04KW1V100M	ELECTRO 10UF 35WV		
C708			CF92FV1H124J	MF-C 0.12UF J		
C709			C90-3542-05	SUPER-C 1.0F 5.5WV		
C710			CF92FV1H334J	MF-C 0.33UF J		
C711			CE04KW1V4R7M	ELECTRO 4.7UF 35WV		
C712			CE04KW1J101M	ELECTRO 100UF 63WV		
C713			CE04KW1J471M	ELECTRO 470UF 63WV		
C714			CE04KW1H100M	ELECTRO 10UF 50WV		
C715			CK73FB1H103K	CHIP C 0.010UF K		
C716			CE04KW1H100M	ELECTRO 10UF 50WV		
C717,718			CK73FB1E103K	CHIP C 0.010UF K		
C719			CE04KW1H101M	ELECTRO 100UF 50WV		
C720			CQ93FMG1H103J	MYLAR 0.010UF J		
C721			CE04KW1A101M	ELECTRO 100UF 10WV		

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C722			CK73FB1E104K	CHIP C 0.10UF K		
C723			CK73EF1C105Z	CHIP C 1.0UF Z		
C724			CK73FB1E104K	CHIP C 0.10UF K		
C726			CK73EF1C105Z	CHIP C 1.0UF Z		
C727			CE04HW1E100M	NP-ELEC 10UF 25WV		
C728			CK73FB1E104K	CHIP C 0.10UF K		
C732			CE04KW0J471M	ELECTRO 470UF 6.3WV		
C733			CE04KW1V100M	ELECTRO 10UF 35WV		
C734,735			CC73FSL1H101J	CHIP C 100PF J		
C801			CE04KW1A101M	ELECTRO 100UF 10WV		
C802			CK73FB1E104K	CHIP C 0.10UF K		
C803,804			CC73FSL1H101J	CHIP C 100PF J		
C805,806			CK73EF1C105Z	CHIP C 1.0UF Z		
C810-816			CC73FSL1H101J	CHIP C 100PF J		
C817,818			CC73FSL1H221J	CHIP C 220PF J		
C819			CK73FB1E104K	CHIP C 0.10UF K		
C901			CK73EB1H104K	CHIP C 0.10UF K		
C902			CK73FB1E104K	CHIP C 0.10UF K		
C903			CK73EF1C105Z	CHIP C 1.0UF Z		
C904			CK73EB1H104K	CHIP C 0.10UF K		
C905			CC73FSL1H101J	CHIP C 100PF J		
C906			CK73FB1E104K	CHIP C 0.10UF K		
C907			CK73EF1C105Z	CHIP C 1.0UF Z		
C908			C90-3258-05	ELECTRO 10UF 50WV		
C910,911			CC73FSL1H101J	CHIP C 100PF J		
C912			C90-3217-05	ELECTRO 10UF 10WV		
C913			CC73FSL1H101J	CHIP C 100PF J		
CN1			E40-3250-05	PIN ASSY (6P)		
CN21			E40-4297-05	FLAT CABLE CONNECTOR(7P)		
CN31			E40-4967-05	FLAT CABLE CONNECTOR(18P)		
CN32			E40-4968-05	FLAT CABLE CONNECTOR(30P)		
CN51			E40-4807-05	PIN ASSY (9P)		
CN71			E40-3250-05	PIN ASSY (6P)		
CN81			E40-4167-05	FLAT CABLE CONNECTOR(27P)		
CN82			E40-4207-05	FLAT CABLE CONNECTOR(27P)		
J1		*	E63-0175-05	PHONO JACK (2P,REC IN)		
J2			E63-0121-05	PHONO JACK (4P,P;AY OUT1/2)		
J41		*	E63-0174-05	PHONO JACK (2P,COAXIAL)		
J801			E11-0188-05	MINIATURE PHONE JACK(2P)		
⚠ F1			F04-2025-05	FUSE (UL) (250V 2A)	P	
⚠ F1			F06-2021-05	FUSE (SEMKO) (250V T2AL)	ME	
CN72,73			J13-0075-05	FUSE CLIP		
E2			J19-5608-13	HOLDER		
J11 ,12			J11-0808-05	WIRE CLAMPER		
L101			L40-1091-17	SMALL FIXED INDUCTOR(1UH)		
L401			L40-2291-17	SMALL FIXED INDUCTOR(22UH)		
L451			L40-1001-17	SMALL FIXED INDUCTOR(10UH,K)		
L801,802			L92-0018-05	FERRITE CORE		
X101			L77-1164-05	CRYSTAL RESONATOR(16.9344MHZ)		
X401			L77-2150-05	CRYSTAL RESONATOR(45M,3RD)		
X701			L78-0290-05	RESONATOR (8MHZ)		
X801			L78-0284-05	RESONATOR (5MHZ)		

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R51			RK73FB2A101J	CHIP R 100 J 1/10W		
R52			RK73FB2A104J	CHIP R 100K J 1/10W		
R53			RK73FB2A103J	CHIP R 10K J 1/10W		
R54			RK73FB2A431J	CHIP R 430 J 1/10W		
R55			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R56			RK73FB2A271J	CHIP R 270 J 1/10W		
R57			RK73FB2A101J	CHIP R 100 J 1/10W		
R58			RK73FB2A221J	CHIP R 220 J 1/10W		
R59			RK73FB2A101J	CHIP R 100 J 1/10W		
R60			RD14NB2E470J	RD 47 J 1/4W		
R61			RK73FB2A103J	CHIP R 10K J 1/10W		
R101-104			RK73FB2A101J	CHIP R 100 J 1/10W		
R105			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R106,107			RK73FB2A101J	CHIP R 100 J 1/10W		
R108-110			RK73FB2A103J	CHIP R 10K J 1/10W		
R111			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R112			RK73FB2A431J	CHIP R 430 J 1/10W		
R113			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R114			RK73FB2A221J	CHIP R 220 J 1/10W		
R121-124			RK73FB2A101J	CHIP R 100 J 1/10W		
R130			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R131,132			RD14NB2E100J	RD 10 J 1/4W		
R133,134			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R135-138			RK73FB2A133J	CHIP R 13K J 1/10W		
R139,140			RK73FB2A221J	CHIP R 220 J 1/10W		
R141,142			RK73FB2A561J	CHIP R 560 J 1/10W		
R143,144			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R145,146			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R147,148			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R149-152			RK73FB2A100J	CHIP R 10 J 1/10W		
R153,154			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R155,156			RK73FB2A100J	CHIP R 10 J 1/10W		
R157,158			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R159			RK73FB2A301J	CHIP R 300 J 1/10W		
R160			RK73FB2A302J	CHIP R 3.0K J 1/10W		
R161			RK73FB2A202J	CHIP R 2.0K J 1/10W		
R162,163			RK73FB2A103J	CHIP R 10K J 1/10W		
R164			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R165			RK73FB2A100J	CHIP R 10 J 1/10W		
R166			RK73FB2A122J	CHIP R 1.2K J 1/10W		
R167			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R233-240			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R241,242			RD14NB2E101J	RD 100 J 1/4W		
R301-305			RK73FB2A101J	CHIP R 100 J 1/10W		
R306-310			RK73FB2A104J	CHIP R 100K J 1/10W		
R311			RK73FB2A431J	CHIP R 430 J 1/10W		
R312			RK73FB2A471J	CHIP R 470 J 1/10W		
R313			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R314			RK73FB2A101J	CHIP R 100 J 1/10W		
R315			RK73FB2A103J	CHIP R 10K J 1/10W		
R316			RK73FB2A271J	CHIP R 270 J 1/10W		
R317-322			RK73FB2A101J	CHIP R 100 J 1/10W		
R401			RK73FB2A431J	CHIP R 430 J 1/10W		
R402			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R403			RK73FB2A431J	CHIP R 430 J 1/10W		

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R404			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R405			RK73FB2A101J	CHIP R 100 J 1/10W		
R406,407			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R408			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R451			RK73FB2A104J	CHIP R 100K J 1/10W		
R452,453			RK73FB2A151J	CHIP R 150 J 1/10W		
R454			RK73FB2A331J	CHIP R 330 J 1/10W		
R455			RK73FB2A221J	CHIP R 220 J 1/10W		
R456			RK73FB2A331J	CHIP R 330 J 1/10W		
R457,458			RK73FB2A151J	CHIP R 150 J 1/10W		
R459			RK73FB2A150J	CHIP R 15 J 1/10W		
R460,461			RK73FB2A101J	CHIP R 100 J 1/10W		
R462			RK73FB2A104J	CHIP R 100K J 1/10W		
R463			RK73FB2A103J	CHIP R 10K J 1/10W		
R501			RK73FB2A182J	CHIP R 1.8K J 1/10W		
R502			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R503,504			RD14NB2E561J	RD 560 J 1/4W		
R505,506			RK73FB2A100J	CHIP R 10 J 1/10W		
R507			RK73FB2A391J	CHIP R 390 J 1/10W		
R508			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R509			RK73FB2A392J	CHIP R 3.9K J 1/10W		
R510			RK73FB2A512J	CHIP R 5.1K J 1/10W		
R511			RK73FB2A272J	CHIP R 2.7K J 1/10W		
R512			RK73FB2A302J	CHIP R 3.0K J 1/10W		
R513			RK73FB2A103J	CHIP R 10K J 1/10W		
R514,515			RK73FB2A681J	CHIP R 680 J 1/10W		
R516,517			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R518,519			RK73FB2A100J	CHIP R 10 J 1/10W		
R520			RK73FB2A103J	CHIP R 10K J 1/10W		
R521			RK73FB2A473J	CHIP R 47K J 1/10W		
R522			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R551-553			RK73FB2A470J	CHIP R 47 J 1/10W		
R554			RK73FB2A100J	CHIP R 10 J 1/10W		
R555			RK73FB2A391J	CHIP R 390 J 1/10W		
R556			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R557			RK73FB2A202J	CHIP R 2.0K J 1/10W		
R558			RK73FB2A512J	CHIP R 5.1K J 1/10W		
R559			RK73FB2A681J	CHIP R 680 J 1/10W		
R560			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R601-617			RK73FB2A101J	CHIP R 100 J 1/10W		
R618			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R619,620			RK73FB2A101J	CHIP R 100 J 1/10W		
R701			RD14NB2E152J	RD 1.5K J 1/4W		
R702-704			RK73FB2A100J	CHIP R 10 J 1/10W		
R705			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R709			RK73FB2A101J	CHIP R 100 J 1/10W		
R710			RK73FB2A471J	CHIP R 470 J 1/10W		
R711			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R712			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R713			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R714			RK73FB2A103J	CHIP R 10K J 1/10W		
R715			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R716			RK73FB2A223J	CHIP R 22K J 1/10W		
R717			RK73FB2A104J	CHIP R 100K J 1/10W		
R719			RD14NB2E332J	RD 3.3K J 1/4W		

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R720			RK73FB2A100J	CHIP R 10 J 1/10W		
R721			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R722			RK73FB2A223J	CHIP R 22K J 1/10W		
R723			RK73FB2A303J	CHIP R 30K J 1/10W		
R724,725			RK73FB2A101J	CHIP R 100 J 1/10W		
R726-728			RK73FB2A103J	CHIP R 10K J 1/10W		
R729			RK73FB2A104J	CHIP R 100K J 1/10W		
R730			RK73FB2A103J	CHIP R 10K J 1/10W		
R731			RK73FB2A101J	CHIP R 100 J 1/10W		
R732			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R733-735			RK73FB2A103J	CHIP R 10K J 1/10W		
R736			RK73FB2A101J	CHIP R 100 J 1/10W		
R737-744			RK73FB2A104J	CHIP R 100K J 1/10W		
R745-750			RK73FB2A101J	CHIP R 100 J 1/10W		
R751			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R752			RK73FB2A104J	CHIP R 100K J 1/10W		
R753			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R754			RK73FB2A103J	CHIP R 10K J 1/10W		
R755			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R756,757			RK73FB2A103J	CHIP R 10K J 1/10W		
R758			RK73FB2A123J	CHIP R 12K J 1/10W		
R759			RK73FB2A153J	CHIP R 15K J 1/10W		
R760			RK73FB2A223J	CHIP R 22K J 1/10W		
R761			RK73FB2A103J	CHIP R 10K J 1/10W		
R762-764			RK73FB2A104J	CHIP R 100K J 1/10W		
R765-768			RK73FB2A101J	CHIP R 100 J 1/10W		
R769-779			RK73FB2A104J	CHIP R 100K J 1/10W		
R780			RK73FB2A103J	CHIP R 10K J 1/10W		
R781			RD14NB2E1R0J	RD 1.0 J 1/4W	P	
R782-784			RK73FB2A104J	CHIP R 100K J 1/10W		
R785			RK73FB2A103J	CHIP R 10K J 1/10W		
R786-789			RK73FB2A104J	CHIP R 100K J 1/10W		
R790			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R791-793			RK73FB2A101J	CHIP R 100 J 1/10W		
R795-797			RK73FB2A103J	CHIP R 10K J 1/10W		
R798			RK73FB2A101J	CHIP R 100 J 1/10W		
R799			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R801-821			RK73FB2A104J	CHIP R 100K J 1/10W		
R823-829			RK73FB2A104J	CHIP R 100K J 1/10W		
R830			RK73FB2A101J	CHIP R 100 J 1/10W		
R831-836			RK73FB2A104J	CHIP R 100K J 1/10W		
R837			RK73FB2A103J	CHIP R 10K J 1/10W		
R838-840			RK73FB2A104J	CHIP R 100K J 1/10W		
R841			RK73FB2A331J	CHIP R 330 J 1/10W		
R842,843			RK73FB2A104J	CHIP R 100K J 1/10W		
R844			RK73FB2A331J	CHIP R 330 J 1/10W		
R845,846			RK73FB2A104J	CHIP R 100K J 1/10W		
R847			RK73FB2A471J	CHIP R 470 J 1/10W		
R851-857			RK73FB2A103J	CHIP R 10K J 1/10W		
R858-863			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R864-873			RK73FB2A471J	CHIP R 470 J 1/10W		
R901,902			RK73FB2A104J	CHIP R 100K J 1/10W		
R903			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R904-906			RK73FB2A103J	CHIP R 10K J 1/10W		
R907,908			RK73FB2A104J	CHIP R 100K J 1/10W		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
R909			RK73FB2A103J	CHIP R 10K J 1/10W		
R911-913			RK73FB2A103J	CHIP R 10K J 1/10W		
R914,915			RK73FB2A471J	CHIP R 470 J 1/10W		
R916,917			RK73FB2A103J	CHIP R 10K J 1/10W		
R918			RK73FB2A471J	CHIP R 470 J 1/10W		
R919			RK73FB2A103J	CHIP R 10K J 1/10W		
R923-928			RK73FB2A101J	CHIP R 100 J 1/10W		
R929-932			RK73FB2A102J	CHIP R 1.0K J 1/10W		
S451			S31-2132-05	SLIDE SWITCH (OPTICAL/COAXIAL)		
S901-906			S70-0031-05	TACT SWITCH		
S908-920			S70-0031-05	TACT SWITCH		
S922			S70-0031-05	TACT SWITCH (QUICK MOVE)		
S925			T99-0537-05	ROTARY ENCODER(CHARACTER etc)		
D1 -4			DA204U	DIODE		
D6			DTZ5.6(B)	ZENER DIODE		
D101			DTZ5.6(B)	ZENER DIODE		
D103,104			DTZ5.1(B)	ZENER DIODE		
D105,106			DTZ2.7(B)	ZENER DIODE		
D107			DAN202U	DIODE		
D108			MA111	DIODE		
D301			DTZ5.1(B)	ZENER DIODE		
D302			MA111	DIODE		
D401,402			DTZ5.6(B)	ZENER DIODE		
D501			KBP02ML-6127	DIODE		
D505			DA204U	DIODE		
D506		*	DTZ4.7(B)	ZENER DIODE		
D507-509			DTZ8.2(B)	ZENER DIODE		
D510,511			DTZ5.1(B)	ZENER DIODE		
D551,552			DTZ5.1(B)	ZENER DIODE		
D553			MA111	DIODE		
D701			D5SBA20F03	DIODE		
D702			DTZ8.2(B)	ZENER DIODE		
D703			MA111	DIODE		
D705,706			S5688B	DIODE		
D705,706			1SR139-100	DIODE		
D707			MA111	DIODE		
D708			DTZ2.7(B)	ZENER DIODE		
D709			DAN202U	DIODE		
D711,712			MA111	DIODE		
D713			S5688B	DIODE		
D713			1SR139-100	DIODE		
D714,715			HZS5.1S(B2)	ZENER DIODE		
D714,715			RD5.1JS(B2)	ZENER DIODE		
D717,718			MA111	DIODE		
D801,802			DA204U	DIODE		
D803,804			MA111	DIODE		
D805			DA204U	DIODE		
D902-905			MA111	DIODE		
ED1			FIP15XM2AA	INDICATOR TUBE		
IC1 ,2			NJM4565M	IC(OP AMP X2)		
IC51		*	AK5340-VS	MOS-IC		
IC52			TC74HC107AF	MOS-IC		
IC101			SM5841CS	MOS-IC		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
IC102			KAN02	CUSTOM IC		
IC103		*	SAA7350GP/M3	MOS-IC		
IC104			TDA1547	IC(DAC)		
IC105			NJM4565M	IC(OP AMP X2)		
IC201,202			NJM4565M	IC(OP AMP X2)		
IC301			CXD2536R	MOS-IC		
IC302			HM514400CLS-8	MEMORY IC		
IC451			TC74HC00AF	IC(2INPUT NAND GATE)		
IC452			TC74HCU04AF	IC(HEX INVERTER SMD)		
IC501			NJM4565M	IC(OP AMP X2)		
IC551			NJM2100M	IC(OP AMPLIFIER)		
IC701			M62005L	MOS-IC		
IC702			PST993D-T	ANALOGUE IC		
IC703			BA17805T	IC(VOLTAGE REGULATOR/ +5V)		
IC704			TA78057S	IC(VOLTAGE REGULATOR/+5.75V)		
IC711			MB-M1	MI-COM IC		
IC712			TA8409S	MOS-IC		
IC801		*	UPD78056GC-113	MI-COM IC		
IC901,902			LC75710NE	MOS-IC		
Q51			DTC124EU	DIGITAL TRANSISTOR		
Q51			UN5212	DIGITAL TRANSISTOR		
Q52			2SC4719(Q,R)	TRANSISTOR		
Q102			2SC1923(R,O)	TRANSISTOR		
Q103,104			2SD882	TRANSISTOR		
Q105			2SB772	TRANSISTOR		
Q201-208			2SD1450(S,T)	TRANSISTOR		
Q301			2SC4719(Q,R)	TRANSISTOR		
Q302			2SD882	TRANSISTOR		
Q401			2SC2458(Y,GR)	TRANSISTOR		
Q401			2SC3311A(Q,R)	TRANSISTOR		
Q402			2SA1048(Y,GR)	TRANSISTOR		
Q402			2SA1309A(Q,R)	TRANSISTOR		
Q403			2SK302(Y,GR)	FET		
Q501			2SD2012	TRANSISTOR		
Q501			2SD2061	TRANSISTOR		
Q502			2SB1370	TRANSISTOR		
Q502			2SB1375	TRANSISTOR		
Q503,504			2SK246(Y,GR)	FET		
Q505,506			DTC124EU	DIGITAL TRANSISTOR		
Q505,506			UN5212	DIGITAL TRANSISTOR		
Q507			2SD2012	TRANSISTOR		
Q507			2SD2061	TRANSISTOR		
Q508			2SB1370	TRANSISTOR		
Q508			2SB1375	TRANSISTOR		
Q551-553			2SB1370	TRANSISTOR		
Q551-553			2SB1375	TRANSISTOR		
Q554			2SC2458(Y,GR)	TRANSISTOR		
Q554			2SC3311A(Q,R)	TRANSISTOR		
Q555			2SK246(Y,GR)	FET		
Q556			DTC124EU	DIGITAL TRANSISTOR		
Q556			UN5212	DIGITAL TRANSISTOR		
Q701			2SC2458(Y,GR)	TRANSISTOR		
Q701			2SC3311A(Q,R)	TRANSISTOR		
Q702,703			2SB1370	TRANSISTOR		
Q702,703			2SB1375	TRANSISTOR		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
Q705			2SB1370	TRANSISTOR		
Q705			2SB1375	TRANSISTOR		
Q706			2SA1048(Y,GR)	TRANSISTOR		
Q706			2SA1309A(Q,R)	TRANSISTOR		
Q708			2SA1576(R,S)	TRANSISTOR		
Q709,710			DTA124EU	DIGITAL TRANSISTOR		
Q709,710			UN5112	DIGITAL TRANSISTOR		
Q711,712			DTC124EU	DIGITAL TRANSISTOR		
Q711,712			UN5212	DIGITAL TRANSISTOR		
Q901-904			2SC4081(R,S)	TRANSISTOR		
A1			W02-1181-05	OPTIC RECEIVING MODULE		
A2			W02-1114-05	OSCILLATING MODULE		
A3			W02-1188-05	ELECTRIC CIRCUIT MODULE		
MECHANISM PCB (MBU-2)						
C101			C92-0132-08	TANTAL 10UF		
C102			CK73FF1E104Z	CHIP C 0.10UF Z		
C103,104			C92-0132-08	TANTAL 10UF		
C105			CK73FB1H103K	CHIP C 0.010UF K		
C106			CC73FCH1H102J	CHIP C 1000PF J		
C107,108			CK73FB1H103K	CHIP C 0.010UF K		
C109			CK73FB1E223K	CHIP C 0.022UF K		
C111			CK73FB1E104K	CHIP C 0.10UF K		
C112			CK73FB1H103K	CHIP C 0.010UF K		
C113			CK73EB1C105K	CHIP C 1.0UF K		
C114			CK73FF1E104Z	CHIP C 0.10UF Z		
C115			CK73EB1C105K	CHIP C 1.0UF K		
C116			CK73FB1H682K	CHIP C 6800PF K		
C117			CK73FB1E104K	CHIP C 0.10UF K		
C119			C92-0132-08	TANTAL 10UF		
C121			C92-0038-05	CHIP-ELE 22UF 16WV		
C122			CK73FB1H103K	CHIP C 0.010UF K		
C123,124			CK73FF1E104Z	CHIP C 0.10UF Z		
C125			CK73FB1H473K	CHIP C 0.047UF K		
C126			CK73EB1C105K	CHIP C 1.0UF K		
C127			CK73FF1E104Z	CHIP C 0.10UF Z		
C128			CK73FB1H103K	CHIP C 0.010UF K		
C129			CK73FF1C474Z	CHIP C 0.47UF Z		
C130			CC73FSL1H101J	CHIP C 100PF J		
C131			CK73FB1H473K	CHIP C 0.047UF K		
C132			CK73EB1C105K	CHIP C 1.0UF K		
C133			CK73FB1H472K	CHIP C 4700PF K		
C134,135			CK73FF1E104Z	CHIP C 0.10UF Z		
C136			C92-0048-05	ELECTRO 100UF 6.3WV		
C141			CK73FF1E104Z	CHIP C 0.10UF Z		
C142-144			CC73FSL1H101J	CHIP C 100PF J		
C146			CK73FF1E104Z	CHIP C 0.10UF Z		
C151			C92-0132-08	TANTAL 10UF		
C152			CK73FF1E104Z	CHIP C 0.10UF Z		
C155			C92-0133-08	TANTAL 6.8UF		
C160,161			C92-0041-05	CHIP-ELE 10UF 10WV		
C163,164			CK73FB1H103K	CHIP C 0.010UF K		
C166			CC73FCH1H102J	CHIP C 1000PF J		
C167,168			CK73FF1E104Z	CHIP C 0.10UF Z		
C169,170			C92-0132-08	TANTAL 10UF		

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Ref. No	Add-ress	New Parts	Parts No.	Description	Desti-nation	Re-marks
C171			CK73FF1E104Z	CHIP C 0.10UF Z		
C175			CK73FF1E104Z	CHIP C 0.10UF Z		
C176,177			CC73FSL1H100J	CHIP C 10PF J		
C178			CK73FF1E104Z	CHIP C 0.10UF Z		
C181			C92-0132-08	TANTAL 10UF		
C182,183			CK73FF1E104Z	CHIP C 0.10UF Z		
C184			C92-0134-08	CHIP-ELE 22UF		
C185			C91-1529-08	CHIP C 1000PF		
C186			CK73FF1E104Z	CHIP C 0.10UF Z		
C191			C92-0038-05	CHIP-ELE 22UF 16WV		
C192			CK73FF1E104Z	CHIP C 0.10UF Z		
C193			CK73FF1C105Z	CHIP C 1.0UF Z		
C194			C92-0048-05	ELECTRO 100UF 6.3WV		
CN101	3D		E40-9818-08	FLAT CABLE CONNECTOR(22P)		
CN102	3D		E40-4968-05	FLAT CABLE CONNECTOR(30P)		
CN103	3D		E40-4967-05	FLAT CABLE CONNECTOR(18P)		
CN104	3D		E40-9819-08	FLAT CABLE CONNECTOR(4P)		
L101-103			L92-0048-08	CHIP FERRITE		
L106			L92-0048-08	CHIP FERRITE		
L110			R92-0670-05	CHIP R 0 OHM		
L121			L92-0048-08	CHIP FERRITE		
L122			L33-0511-08	SMALL FIXED INDUCTOR(100UH)		
L151,152			L33-0512-08	SMALL FIXED INDUCTOR(10UH)		
L153,154			L33-0511-08	SMALL FIXED INDUCTOR(100UH)		
L155			L33-0400-08	SMALL FIXED INDUCTOR(1000UH)		
L161,162			L92-0048-08	CHIP FERRITE		
L195			L92-0047-08	CHIP FERRITE		
R101			RK73FB2A332J	CHIP R 3.3K J 1/10W		
R102			RK73FB2A103J	CHIP R 10K J 1/10W		
R103			RK73FB2A1002D	CHIP R 10.0K D 1/10W		
R104			RK73FB2A102J	CHIP R 1.0K J 1/10W		
R105			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R106			RK73FB2A335J	CHIP R 3.3M J 1/10W		
R107			RK73FB2A474J	CHIP R 470K J 1/10W		
R114			RK73FB2A101J	CHIP R 100 J 1/10W		
R116			RK73FB2A682J	CHIP R 6.8K J 1/10W		
R117			RK73FB2A474J	CHIP R 470K J 1/10W		
R120			RK73FB2A101J	CHIP R 100 J 1/10W		
R121			RK73FB2A104J	CHIP R 100K J 1/10W		
R122			R92-0670-05	CHIP R 0 OHM		
R123			RK73FB2A331J	CHIP R 330 J 1/10W		
R124,125			RK73FB2A101J	CHIP R 100 J 1/10W		
R128			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R129			RK73FB2A331J	CHIP R 330 J 1/10W		
R130			RK73FB2A471J	CHIP R 470 J 1/10W		
R131			RK73FB2A103J	CHIP R 10K J 1/10W		
R132			RK73FB2A104J	CHIP R 100K J 1/10W		
R133			RK73FB2A335J	CHIP R 3.3M J 1/10W		
R134			RK73FB2A331J	CHIP R 330 J 1/10W		
R135			RK73FB2A152J	CHIP R 1.5K J 1/10W		
R136			RK73FB2A471J	CHIP R 470 J 1/10W		
R137			RK73FB2A101J	CHIP R 100 J 1/10W		
R139,140			RK73FB2A470J	CHIP R 47 J 1/10W		
R142,143			RK73FB2A103J	CHIP R 10K J 1/10W		

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R144			RK73FB2A101J	CHIP R 100 J 1/10W		
R145			RK73FB2A105J	CHIP R 1.0M J 1/10W		
R146			RK73FB2A331J	CHIP R 330 J 1/10W		
R147			RK73FB2A101J	CHIP R 100 J 1/10W		
R148			RK73FB2A681J	CHIP R 680 J 1/10W		
R149			RK73FB2A101J	CHIP R 100 J 1/10W		
R151			RK73FB2A104J	CHIP R 100K J 1/10W		
R152,153			R92-0670-05	CHIP R 0 OHM		
R154,155			R92-1827-08	METAL GLAZE RESISTOR 150 1/4W		
R161-163			RK73FB2A222J	CHIP R 2.2K J 1/10W		
R164			RK73FB2A681J	CHIP R 680 J 1/10W		
R165			RK73FB2A104J	CHIP R 100K J 1/10W		
R166			R92-1826-08	METAL GLAZE RESISTOR 10 1/2W		
R167			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R168			R92-1825-08	METAL GLAZE RESISTOR 1 1/4W		
R170,171			RK73FB2A103J	CHIP R 10K J 1/10W		
R172			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R174			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R176			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R178			RK73FB2A472J	CHIP R 4.7K J 1/10W		
R181			RK73FB2A103J	CHIP R 10K J 1/10W		
R182,183			RK73FB2A473J	CHIP R 47K J 1/10W		
R184			R92-0679-05	CHIP R 0 OHM		
R186			R92-0679-05	CHIP R 0 OHM		
R195			R92-0670-05	CHIP R 0 OHM		
R261			RK73FB2A101J	CHIP R 100 J 1/10W		
VR101			R32-0021-08	SEMI FIXED VARIABLE R(47K)		
VR102			R12-3168-05	SEMI FIXED VARIABLE R(22K)		
VR105			R12-3167-05	SEMI FIXED VARIABLE R(10K)		
S101			S68-0053-08	PUSH SWITCH		
D101			1SS355	DIODE		
D155			SB007-03Q-TL	DIODE		
D161			MA8027-L	DIODE		
D181			F1P2STP	DIODE		
D183			F1P2STP	DIODE		
IC101			CXA1981AR	IC(RF AMP)		
IC102			TC7SU04F	IC(INVERTER)		
IC121			CXD2535BR	IC(DSSP&DSP)		
IC122			TC7SU04F	IC(INVERTER)		
IC123			TC7SU04FU-TE85L	IC(COMS CONVERTOR)		
IC151			MPC17A38VMEL	IC(MOTOR DRIVER)		
IC171			X24C01S	IC(EEPROM)		
IC172			UPC842G2	IC(BUFFER)		
IC181			TC74ACT540FS	IC(OVER WRITE HEAD DRIVE)		
IC182			TC7SU04F	IC(INVERTER)		
IC191			L88MS05T-FA	IC(POWER SUPPLY)		
Q101			DTA144EU	TRANSISTOR		
Q151			DTC144EU	TRANSISTOR		
Q162			2SB798-DL	TRANSISTOR		
Q163			DTA144EU	TRANSISTOR		
Q164			DTA123JU	TRANSISTOR		
Q181			2SJ278MY	TRANSISTOR		
Q182			2SK1764KY	TRANSISTOR		

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MECHANISM ASSY (D40-1438-05/D40-1439-11)						
1	2A		A10-3231-03	CHASSIS ASSY		
3	1B		A11-1074-02	SUB CHASSIS ASSY		
DM	2D		A10-3258-08	CHASSIS ASSY		
12	3B		D10-3593-04	ARM (EJECT)		
13	3B		D10-3594-04	ARM (PLAY)		
14	2B		D10-3595-04	ARM (REC)		
15	1B		D10-3596-12	SLIDER (LIFT)		
16	2B		D13-1712-04	GEAR (PULLEY)		
17	2B		D13-1714-04	GEAR (INNER)		
18	2B		D13-1715-04	GEAR (F)		
19	1B		D13-1716-04	GEAR (IDLER)		
20	1C		D13-1721-08	GEAR (SL-A)		
21	2D		D13-1722-08	GEAR (SL-B)		
22	2D		D13-1723-08	GEAR (SL-C)		
25	2B		D15-0386-04	PULLEY (MOTOR)		
26	2B		D16-0390-03	BELT		
28	2D		D21-1822-08	SHAFT		
30	1D		E35-1312-08	FLAT CABLE(4P) (MBU-2 CN104)		
31	2B		E40-3264-05	PIN ASSY(6P) (MECHA LD)		
45	2C		G02-1082-08	FLAT SPRING (OP)		
50	1B		J19-5602-12	HOLDER ASSY (CARTRIDGE)		
51	3D		J26-0031-08	PRINTED WIRING BOARD ASSY		
55	2A,3B		J90-0837-04	GUIDE (SLIDER)		
AE	1B,2B		N19-0891-04	FLAT WASHER		
60	1C		S68-0054-08	PUSH SWITCH		
S1 -3	2B		S40-1139-05	PUSH SWITCH		
FM	2C		T42-0819-08	MOTOR ASSY (FEED)		
LM	2B		T42-0811-05	DC MOTOR		
PU	2D		T25-0046-08	OPTICAL PICKUP HEAD (KSM-210A)		
RH	1D		T30-0011-08	RECORD HEAD (RF322-74A)		

L : Scandinavia **K** : USA **P** : Canada **R** : Mexico
Y : PX(Far East, Hawaii) **T** : Europe **E** : Europe **G** : Germany
Y : AAFES(Europe) **X** : Australia **M** : Other Areas

⚠ indicates safety critical components.

SPECIFICATIONS

System	Minidisc digital audio system
Laser	Semiconductor laser
Recording method	Field modulation overwrite method
Sampling frequency	44.1 kHz
Playing rotation	Approx. 400 rpm ~ 900 rpm (CLV)
D/A conversion	1 Bit
Oversampling	8 fs (352.8 kHz)
A/D converter	5 th order sigma-delta conversion
Frequency responce (playback mode)	4 Hz ~ 20 kHz, ± 0.5 dB
Signal to noise ratio (playback mode)	More than 105 dB
Dynamic range (playback mode)	More than 96 dB
Total harmonic distortion (1 kHz, playback mode)	Less than 0.006 %
Wow & flutter	Less than unmeasurable limit
Audio compression	ATRAC (Adaptive TRansform Acoustic Coding)
Analog input sensitivity / input impedance	500 mV / 25 kΩ or more
Analog output level / load impedance	2.0 V / 10 kΩ
Digital input / output	
Coaxial	0.5 Vp-p / 75 Ω
Optical	Wave length 660 nm
Headphone output	24 mW (32 Ω)

General

Power consumption	30 W
Dimensions	W : 440 mm (17 - 5 / 6") H : 94 mm (3 - 11 / 16") D : 373 mm (14 - 11 / 16")
Weight (Net)	5.8 kg (12.8 lb)

Note :
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

DM-7080

Note:
Component and circuity are subject to modification to insure best operation under differing local conditions. This manual is based on Europe (E) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION
14-6,Dogenzaka 1-chome, Shibuya-ku, Tokyo, 150 Japan

KENWOOD SERVICE CORPORATION
P.O BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745, U.S.A.

KENWOOD ELECTRONICS CANADA INC.
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

KENWOOD ELECTRONICS LATIN AMERICA S.A.
P.O BOX 55-2791, Piso 6 plaza Chase, Cl. 47 y Aquilino de la Guardia Panama, Republic de Panama

KENWOOD ELECTRONICS U.K. LIMITED
KENWOOD House, Dwight Road, Watford, Herts., WD1 8EB., United Kingdom

KENWOOD ELECTRONICS BENELUX N.V.
Meachelsesteenweg 418, B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH
Rembrücker Str. 15, 63150 Heusenstamm, Germany

KENWOOD ELECTRONICS FRANCE S.A.
13 Boulevard Ney, 75018 Paris, France

KENWOOD ELECTRONICS ITALIA S.p.A.
Via G. Sirtori, 7/9 20129, Milano, Italy

KENWOOD IBÉRICA S.A.
Bolivia, 239-08020 Barcelona, Spain

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (A.C.N. 001499 074)
P.O Box 504, 8 Figtree Drive, Australia Centre, Homebush, N.S.W. 2140, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Unit 3712-3724, Level 37, Tower 1, Metroplaza, 223 Hing Fong Road, Kwai Fong N.T., Hong Kong

KENWOOD ELECTRONICS SINGAPORE PTE LTD.
No. 1 Genting Lane #02-02, KENWOOD Building, Singapore, 349544

KENWOOD ELECTRONICS (MALAYSIA) SDN BHD.
#4.01 Level 4, Wisma Academy Lot 4A, Jalan 19/1 46300 Petaling Jaya Selangor Darul Ehsan
Malaysia